# THE EFFECT OF CLIENT CHARACTERISTICS ON BURNOUT AMONG HELPING PROFESSIONALS

BY

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Dedicated to the memory

of

DOROTHY N. HARLOW

Whose life challenged, whose integrity inspired, and

whose friendship healed.

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Writing a dissertation appears to be, by definition, a long, arduous task. However, the process can be made more tolerable when support is available through all phases of work. I want to thank some of the many who have offered that support to me.

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# THE EFFECT OF CLIENT CHARACTERISTICS ON BURNOUT AMONG HELPING PROFESSIONALS

by

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The study was a systematic exploration of the relationship of a single stressor, client characteristics, to a single strain, burnout, among helping professionals. In order to view the relationship from a number of angles, client characteristics and two other stressors, work load, and social support, were investigated as predictors of burnout. In addition, the differential predictive effects of client characteristics on burnout and three other strains, anxiety, physical symptoms, and absence behavior, were examined, and the possibility of indirect effects of client characteristics on burnout through technology and/or task characteristics was explored.

Data were gathered by questionnaire from nurses ($n$ = 99) in a children's hospital in a southeastern state. The surveys were mailed to nurses' homes and completed by respondents on their own time. The response rate was 55%.

Previously-validated scales were used for the measurement of all variables except absence frequency, client characteristics, and physical symptoms. A factor-based scale for measurement of client characteristics was developed for the study. The physical symptoms scale was used simultaneously in another study for which it was developed (Gaines, in process). Reliability for the client characteristics scale was .81 and for the physical symptoms scale was .87.

Results indicate that the primary dimensions of client characteristics are manageability, likeability, and treatability. Burnout is predicted by client characteristics (inversely) and family support (inversely), and by work load. The effects of work load and family support are neutralized when client characteristics are positively evaluated. Client characteristics are related (inversely) to physical symptoms, but unrelated to anxiety and absence frequency. Client characteristics affect burnout indirectly through task characteristics, but not through technology.

# CHAPTER 1

# INTRODUCTION

As early as 1848, an area of study that the French labeled social medicine "investigated the contribution of poverty, working conditions, nutrition, housing and other social factors to disease and mortality" (Garfield, 1979, p. 34). Much more recently, many behavioral scientists have begun to direct their research efforts toward understanding quality of work life issues. It is asserted that improvements in the quality of work life, defined as "the individual's psychological well-being at work or avowed happiness with work" (Brief, Schuler, and Van Sell, 1981, p. 13) will lead to more positive evaluation of the worker toward self and the job, to lower rates of turnover and absenteeism, and to improved physical and psychological health (Hackman & Suttle, 1977). Job stress is one of the quality of work life issues that affects the psychological and physical well-being of organizational members.

Although as Kasl (1978) has commented, stress at work, in terms of being a perceived problem, may not be as major an issue as unemployment, chemical and physical health hazards in the workplace, or quality of working life in general, it is an issue that is commanding increasing attention in both the popular press and academic journals and meetings (Beehr & Newman, 1978; Brief et al. 1981; Schuler, 1980; Wallis, 1983).

The heightened interest in the phenomenon of stress may be accounted for in large measure by the seriousness of its consequences and the magnitude

of its costs to individuals and to organizations. House (1981) has asserted that "a growing body of evidence indicates that psychosocial forms of occupational stress have deleterious effects on a wide range of physical and mental health outcomes" (p. 8). More specifically, these outcomes, which may be behavioral, psychological, physiological or cognitive, and may be temporary and transient or more long-lasting in nature, include accident proneness, absenteeism, increased turnover, increased smoking, anxiety, depression, anger, lowered self-esteem, increased blood and urine catecholamines, increased heart rate and blood pressure, gastrointestinal disorder, inability to make decisions, and increased experience of mental blocks (Beehr & Newman, 1978; Cooper & Marshall, 1976; House 1981; Ivancevich & Matteson, 1980). These consequences, in turn, are associated with physical illnesses, including peptic ulcer, chronic respiratory diseases, and cardiovascular diseases, and with mental ill health.

In addition to the obvious human costs to individuals suffering the consequences of job stress, these reactions are thought to lead to a reduction in productivity and lowered motivation among stressed workers, which in turn leads to economic costs for organizations (Zaleznik, Kets de Vries, and Howard, 1977). Efforts to determine the dollar value of these economic costs have produced estimates that two-thirds of the visits made to family physicians are prompted by stress-related symptoms which are thought to result in absenteeism, company medical expense, and lost productivity with estimated costs of $50-75 billion, or $750.00 per worker, annually (Wallis, 1983). Peptic ulcer and cardiovascular disease, two diseases with a documented relationship to stress, result in costs of $45 billion annually (Schuler, 1980). Ivancevich and Matteson (1980), after considering contributory factors including costs of loss of decision-making effectiveness, of physical and mental health problems and their care, and

of lost work, have estimated the cost of stress in the United States at $75-90 billion annually--or nearly 19% of the gross national product.

The evidence regarding the importance of stress research obviously justifies what appears to be a surge of interest and research effort on the part of behavioral scientists and medical researchers. Unfortunately, the need for information about causes and effects of stress is much more clear than are the conceptualization of the stress questions and the research methodology for pursuing answers to them.

## Conceptualization and Definition of Stress

Many of the reviews of the stress literature include a lament similar to Schuler's (1980) statement that "stress remains a term without conceptualization and without definitional agreement" (p. 187). The emphasis here must be on lack of agreement, since the literature abounds with conceptualizations and definitions. An effort to classify the variety of approaches and to identify important dimensions of the stress concept is presented in order that the present study may be placed within the context of stress research in general.

### Stress as Stimulus-Response

Stimulus. Several researchers, including Hall and Mansfield (1971), specify that stress is a stimulus. Cooper and Marshall (1976), for example, designated as occupational stress those "negative environmental stresses or factors associated with a particular job" (p. 11). In addition to these straightforward views of stress as stimulus, a more complex approach conceptualizes the stress stimulus as a lack of congruence among designated variables. For example, French (1974) defines stress as lack of person-role fit which leads to experiences of strain; McGrath (1976) as the perception of an environmental demand which might exceed the perceiver's capability for meeting it; and Zaleznik et al. (1977)

as "disparity between what an individual needs and what the environment offers in terms of gratification and reward" (p. 160).

Response. Selye (1976), known as the father of stress research, has defined stress as a "nonspecific response of the body to any demand made upon it" (p. 14). While Selye's position has been accepted by Levi (1974) and others, Frankenhaueser (1976) and Mason, Maher, Hartley, Mougey, Perlow, and Jones (1976) contend, and have demonstrated experimentally, that physiological responses are specific.

Stimulus and Response. At least two approaches to the conceptualization of stress include both stimulus and response. Lazarus (1966) indicated that there is, at least in the exploratory stages of researching stress, a circularity because "the stress stimulus is defined by the reaction, and the stress reaction . . . by its relationship with the stress stimulus" (p. 5). In a somewhat different view, Beehr and Newman (1978) and Margolis and Kroes (1974) define stress as an interaction of factors in the work situation and the worker (stimulus) that result in a change in the individual's functioning (response).

## Stress as an Area of Study

Another approach to the conceptualization of stress was offered by Lazarus (1966), explicitly supported by McLean (1974), and implicitly subscribed to by many researchers and writers in the field of occupational stress. Lazarus (1966) stated that stress is not "a stimulus, response or intervening variable, but rather a collective term for an area of study" (p. 27).

## Stress as Arousal and Threat

In addition to difficulties and differences encountered by stress researchers in specifying the denotation of "stress," there is also lack of agreement about the connotation of the term. While a number of the streams of stress

research (for example, studies dealing with life-event stress or job stress) appear to treat stress as a negative outcome, Selye (1974) asserted that the absence of stress is death. Selye (1976) termed negatively valued stress responses "distress" and positively-valued stress responses "eustress."

One useful approach to distinguishing between the positive and negative connotations of stress as studied in the organizational literature may be to conceptualize it as arousal or as threat. Although Lazarus (1966) asserted that "arousal concentrates on what is general to all kinds of activation, while threat concerns a particular kind of psychological state which, through the stimulation of coping processes, has the capacity to arouse but is not equivalent to arousal" (p. 390), in the job stress literature arousal appears to have a positive connotation. Scott (1966), in an application of activation theory, discussed the positive relationships that can be expected among arousal, non-routine task, and performance. McGrath (1976) reported a positive relationship between experienced stress or arousal, (operationalized as pulse rate, breathing rate, and behavioral activity) and performance.

The negative connotation of stress as it is conceptualized in the job stress literature is reflected in McLean's (1974) conceptualization of stress as threatening events. McLean (1974) identified three types of events as threatening, including the threat of losing self-control, the threat to conscience reflected in experiences of guilt, and the threat of personal physical harm. Lazarus (1966) indicated that "psychological stress . . . is distinguished . . . by the intervening variable of threat. Threat implies a state in which the individual anticipates a confrontation with a harmful condition of some sort" (p. 25). These definitions of stress as threat are congruent with the implications and the emphasis of much of the occupational stress literature (Beehr & Newman, 1978; Brief et al., 1981; House, 1981; Ivancevich & Matteson, 1980; McLean, 1974).

## Models of Stress

The study of stress has produced numerous models, as might be expected in a research domain which is of interest to a variety of disciplines and for which boundaries are not clearly delineated. In many of the models (House, 1981; Ivancevich & Matteson, 1980; Levi, 1974; Schuler, 1980), the term stress is used for a class of intervening variables, usually hypothesized to condition the effect of environmental stressors on strain. French and Caplan (1973) use the term stress for the independent variable in their model, while others (Beehr & Newman, 1978; Brief et al., 1981; Kahn, 1974; McGrath, 1976) reserve the term to refer to the overall process or sequence of events modeled.

Among the models used to research stress in organizations, a few (Beehr & Newman, 1978; McGrath, 1976; Payne, 1979) emphasize process, while most (e.g., Brief et al., 1981; Cooper & Marshall, 1976; House, 1981; Kahn, 1974; Levi, 1974) are concerned with content. Process models attend to the processes by which individuals are hypothesized to progress from one event in the stress sequence to another. For example, Payne (1979) hypothesized a perception process, an appraisal process, and an action process, while McGrath (1976), although he included content variables in his model, placed primary emphasis on the explication and exploration of the appraisal, decision, performance, and outcome processes.

Content models specify the sequence of events or conditions hypothesized to constitute the stress experience. In general, these models include environmental events or conditions, frequently labeled stressors, individual responses, often labeled strains, and outcomes, or consequences. In addition, most content models include individual differences as intervening (Cooper & Marshall, 1976) or moderating (Brief et al., 1981; Ivancevich & Matteson, 1980; Kahn, 1974) variables.

## Stress Research Paradigm

Despite the proliferation of stress models in the past decade, a general stress research paradigm seems to have emerged. The content model, which is presented in Figure 1-1 and which follows closely the work of Caplan, Cobb, French, Jr., Van Harrison and Pinneau (1975) and House (1974, 1981), is parsimonious while being adequately inclusive of the critical classes of variables and specifications of relationships among them. This model is used to guide the present study as a model of job stress, although the model is sufficiently general that it is useful as a guide for research across disciplines and areas of interest.

## Definitions

Stress is used, following Lazarus (1966), McGrath (1976), and McLean (1974), as a general term for the area of study and to designate the overall experience, including antecedents and consequences, being researched. This experience may be conceptualized as a transactional process between an individual and a situation that involves physical or psychological threat for the individual (Lazarus, 1966).

Stressor refers to any job dimension or characteristic that poses a physical or psychological threat to an individual. Stressors may be objectively threatening, in which case they are termed environmental stressors, or subjectively determined to be threatening, in which case they are termed perceived stressors. Shinn (1979) distinguished between two types of stressors in the work environment: stressful job events and ongoing stressors. Among the many characteristics of the work place that have been considered stressors in theoretical and empirical stress studies are task difficulty and ambiguity, role overload, minimal decision-making power, interpersonal disagreement, and isolation (Cooper & Marshall, 1978; Maslach, 1982; McGrath, 1976).

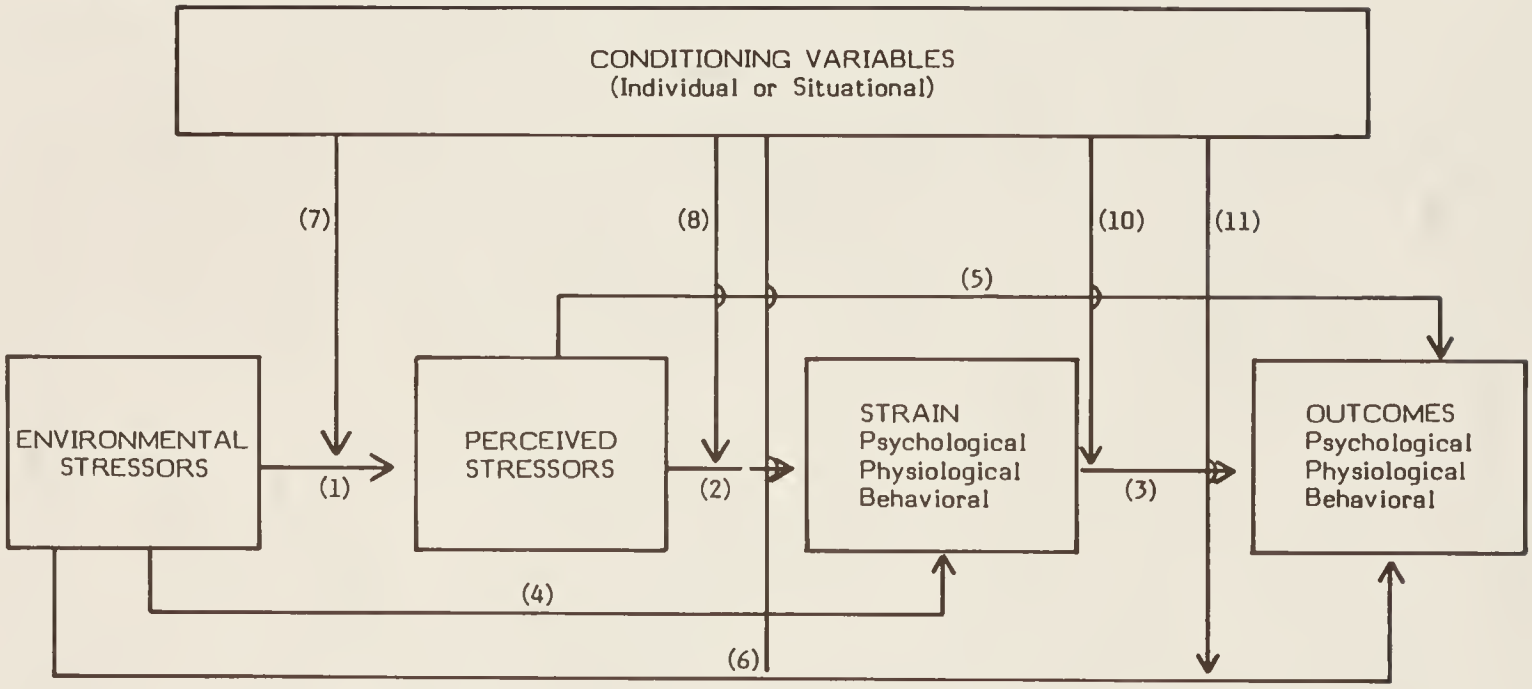


FIGURE 1-1 General Stress Paradigm
(Adapted from Caplan et al., 1975; House, 1974, 1981)

Strain refers to the relatively short-term psychological, physiological and behavioral responses of an individual to the presence of a stressor. Strain is sometimes modeled as an intervening variable through which stressors exert an indirect effect on outcomes. Illustrative of psychological strains are anxiety, depression, job dissatisfaction, and somatic complaints; of physiological strains are heart rate, respiration, blood pressure, serum cholestrol and adrenaline levels; and of behavioral strains are increased smoking, absence, loss of appetite, accident proneness, and change in performance level or level of work involvement (Beehr & Newman, 1978; Caplan, et al. 1975; House, 1981).

Outcomes refer to the long-term psychological, physiological and/or behavioral consequences to the individual and/or the organization of stress experience. Among the consequences of primary interest are decrement in organizational effectiveness, and changes in physical and mental health, including incidences of cardiovascular disease, gastrointestinal problems such as peptic ulcers, and schizophrenia.

Conditioning variables refer to those characteristics of the individual or situation that moderate the direct relationship between other variables in the model. Several models of job stress (Brief et al., 1981; French & Caplan, 1973; Ivancevich & Matteson, 1980; Kahn, 1974) suggest that individual differences, including Type A personality, flexibility-rigidity, self-esteem, education, and age, moderate the relationships between stressor and strain and between strain and outcome. In addition, situational factors such as social support appear to moderate these relationships (House, 1981).

## Relationships

In the model (Figure 1-1), each arrow that connects one box to another (1, 2, 3, 4, 5, 6) represents a hypothesized direct relationship. In addition, a

sequence of arrows (1-2-3; 4-3; 1-5) represents a hypothesized indirect relationship between variables in the first and last boxes connected by the arrows. Further, conditioning variables are hypothesized to alter the direct relationships represented by the arrows to which the conditioning variable arrow points.

For example, environmental stressors are hypothesized to have a direct effect on perceived stressors (arrow 1), on strain (arrow 4), and on outcomes (arrow 6). In addition, environmental stressors are hypothesized to have an indirect effect on psychological strain through perceived stressors (sequence 1-2), on outcomes through perceived stressors (sequence 1-5), and on outcomes through perceived stressors and strain (sequence 1-2-3). Further, it is hypothesized that individual and situational variables will moderate each direct and indirect effect of environmental stressors (arrows 7, 8, 9, 10, 11).

Many of the relationships hypothesized by the stress model are supported by empirical evidence from the job stress literature. Although a review of the evidence for relationships among classes of variables included in this study is presented in Chapter II, examples are noted here. Sales (1970) found that environmental stressors and perceived stressors (arrow 1) are significantly related, and Caplan and Jones (1975) reported that both objective and subjective stressors predict strain (arrows 1 and 4), although subjective stressors are the better predictor class. Zaleznik et al. (1977) offered evidence supporting the environmental stressor to strain and the environmental stressor to outcome relationships (arrows 4 and 6). Frankenhaueser and Gardell (1976) and Kohn and Schooler (1973) found evidence supporting the environmental stress to psychological strain and environmental stress to physiological strain relationships (arrow 4) respectively. Cooper and Marshall (1976) cited a growing body of evidence linking working conditions (environmental and perceived stressors) to

mental and physical ill health outcomes (arrows 5 and 6), and perceived stressors to strain (arrow 2). Levi (1974) reported evidence linking mechanisms (strains) to disease (outcomes; arrow 3).

## Problems in Stress Research

### Research Methods

Beehr and Newman (1978) observed that relatively few of the variables from each class of variables in the stress model have been investigated empirically, and called for a systematic approach to the study of relationships among variables. Response to this appeal requires that researchers in the area of stress deal with a number of relatively complex methodological issues, including clear specification of types of variables, explicit statement and support of assumptions of causality, and use of multivariate analyses to ascertain the explanatory contribution of multiple predictor variables and the nature of relationships between variables.

Cooper and Marshall (1976), Kasl (1978), and Parkes (1982) have emphasized the necessity of avoiding confounding perceptions of the work place with responses to perceptions, and/or of confounding independent and dependent variables due to lack of conceptual and operational clarity. Lazarus (1966), having pointed out that stress researchers sometimes emphasize antecedent conditions of stress and other times emphasize response aspects of stress, declared that "one aspect of the problem (the antecedents of stress) can never really be separated from the other (the nature of the stress reaction). Stress theory requires an analysis of the mechanisms and conditions that link them" (p. 9).

However, as Cooper and Marshall (1976) have observed, much of the stress research has relied on correlational analysis which does not permit

inferences about direction of causality nor about intervening variables. In order to specify independent, dependent, and intervening variables, assumptions about or demonstrations of direction of causality need to be made explicit. The conclusion drawn by Cooper and Marshall (1976) that their extensive review of the stress literature provided "seminal evidence to support the notion that work environment and model organizations have an impact on the physical and mental health of their members" (p. 25) is strengthened by subsequent longitudinal studies, including those of Karasek (1979) and Parkes (1982), which confirm the job-to-strain direction of causality inferred previously from (primarily) cross-sectional studies.

Caplan et al. (1975) asserted that once the causal role of job stress has been established, it is required that specific stressors for particular jobs be identified. However, specification of the impact of each stressor will require application of more sophisticated multivariate analysis techniques, since there is frequently correlation between and among various predictors (Kasl, 1973). In addition to ascertaining the independent effects of stressors, it is important to determine the type of functional relationships between stress and strains. Levi (1972) has suggested that the relationship between stress and stimulation level is of the inverted U form; McGrath (1976) found a positive, linear relationship between arousal and performance when task difficulty was controlled for; and Hackman and Oldham (1976) reported a positive linear relationship between desirable task characteristics and satisfaction. The need for considering other than linear relationships is underscored by Schuler's (1980) conclusion, based on a review of stress literature, that stressors may have different patterns of relationships with different patterns of stress. A related problem in the conduct of stress research is that of restricted range of values for the dependent variable

(McLean, 1974). This restriction occurs in experimental studies because ethical considerations, along with the subjects' expectations that they will be unharmed in experimental situations, preclude inducing high levels of stress. It may occur in natural field studies because those most affected by stress select themselves out of the situation.

### Research Settings

Schuler (1980) concluded, based on his review of research on the relationship of occupational type and stress, that, when other organizational factors are held constant, the most stress occurs for individuals in managerial positions and health care professions. Randolph, Price, and Collins (no date) have reviewed literature documenting high levels of stress in hospital systems. Hay and Oken (1972) and Vreeland and Ellis (1969) reported on the particular stress experiences of Intensive Care Unit (ICU) nurses, Leatt and Schneck (1980) on those of head nurses, and Parkes (1982), on those of student nurses. Despite the appearance of a few studies (Gray-Toft & Anderson, 1981; Leatt & Schneck, 1980; Parkes, 1982) in recent years concentrating on stress among nurses, many questions remain unanswered. For example, no research studies appear to have been done in hospital settings with nurses as subjects and burnout as the dependent variable (Perlman & Hartman, 1982; Randolph et al., no date).

In addition to the need for systematic research studies of stress among nurses in hospital settings, Beehr and Newman (1978) and House (1981) have called for stress research with female subjects, after noting that virtually all research on stress has used at least predominantly male samples.

## Overview of Study

### Proposed Study

The need for more systematic explorations of relationships among variables in the stress research paradigm is reflected in the foregoing summary of the

stress research literature. A review of the literature relevant to antecedents and types of strain among helping professionals, detailed in Chapter II, suggests that characteristics of clients and client-helper relationships lead to strain among helpers. The review further suggests that an important manifestation of strain among helpers is a syndrome that has been labeled burnout. Consequently, the present study attempts to respond to both the methodological and content issues of interest by systematically exploring the relationship of the particular job stressor, client characteristics (see page 27 for definition) to the particular strain, burnout (see page 35 for definition). The systematic exploration involves examining the direct relationship of client characteristics to burnout; examining the relative effects of client characteristics and other strains on the single strain, burnout; determining whether the single stressor, client characteristics, predicts burnout and other variables of the strain class of variables differentially; and testing for indirect effects of client characteristics on burnout through intervening mechanisms. The study also represents an additional test of the hypothesized relationship between stressor and strain within the stress research paradigm, and explores the possibility that the model needs to be expanded to allow for intervening mechanisms to explain the means by which stressors affect strain (Lazarus, 1966). A general representation of the research approach is presented in Figures 1-2, 1-3, 1-4, and 1-5.

In summary, the purpose of this study is to clarify empirically, through systematic application of the stress research paradigm, the effect of client characteristics on burnout among helping professionals.

Research Questions

The research questions addressed by the study include:

1. What are the effects of client characteristics on burnout?


FIGURE 1-2 Direct Relationship Investigated


* Client Characteristics
** Burnout

FIGURE 1-3 Relative Effects of Various Stressors on Single Strain

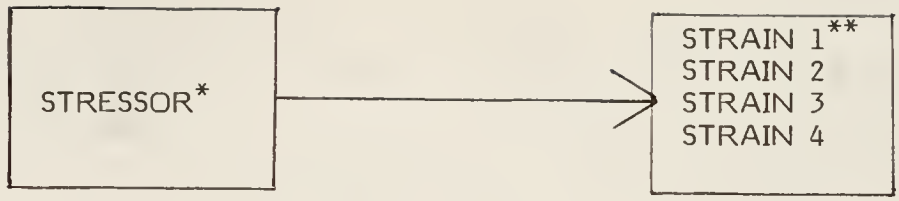


FIGURE 1-4 Variable Prediction of Strains by Single Stressor

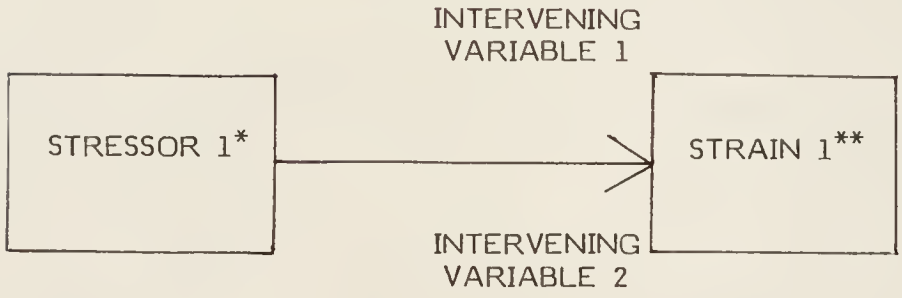


FIGURE 1-5 Direct and Indirect Effects of Stressor on Strain

* Client Characteristics
** Burnout

2. What are the comparative effects of client characteristics and other stressors on burnout?
3. Do client characteristics predict burnout and other strains differentially?
4. What is the mechanism through which client characteristics affect burnout?
5. Is the stressor-strain (arrow 2, Figure 1-1) relationship supported by the study data?

## Study Variables

Independent Variables. Independent variables in the study are representative of perceived stressors in the stress research paradigm and include client characteristics, workload and social support.

Dependent Variables. Dependent variables in the study, representing the psychological, physiological and behavioral components of the strain class of variables in the stress research paradigm, include burnout, anxiety, physical symptoms and absence.

Intervening Variables. The intervening variables explored are technology and task characteristics.

## Summary and Preview

Chapter I has presented an overview of the general area of stress research. It has been noted that stress can be conceptualized as stimulus, as response, as a dynamic phenomenon involving both stimulus and response, or as a general rubric representing a field of study. Stress can also be classified using the dimensions of arousal, which generally has positive connotations, or threat, which has negative connotations.

Several stress models, representing general stress models and job stress models, and classified as process or content models, were reviewed briefly. Figure 1-1 presents a general content model of the stress phenomenon. Drawn largely from Caplan et al. (1975) and House (1981), the model, equivalently referred to as the stress research paradigm, comprises four classes of variables and hypothesizes relationships among them. The model also provides for examining the moderating effects of situational and/or individual conditioning variables on the various direct and indirect relationships between and among the environmental stressors, the perceived stressors, strain, and outcomes.

Research problems salient to the study of stress in organizations were reviewed, including the need to specify conceptually and operationally the variables in a study in a way that prevents confounding of the independent and dependent variables, the need to make explicit assumptions about the direction of causality, the need to specify intervening variables, the necessity of multivariate analysis to facilitate more systematic research in the area, and the importance of explaining not only the existence but also the form of relationships among variables. The purpose of the present study was introduced, and research questions and variables specified.

Chapter II presents a rationale for the selection of variables to be studied, reviews the literature pertinent to the variables, and evolves hypotheses based on the literature.

# CHAPTER II

# LITERATURE REVIEW

A review of the job stress literature revealed a need to approach stress research systematically to determine whether available models are adequate to predict and explain relationships of interest. Much of the job stress research has examined relationships in isolation, making comparison, interpretation, and extrapolation difficult. This study uses the core relationship of one stressor of primary interest (client characteristics) to one strain of primary interest (burnout) as a basis for examining relationships hypothesized by the general stress paradigm (Figure 1-1).

In addition to the basic research question regarding the relationship between client characteristics and burnout, four related research questions are addressed:

1. What are the comparative effects of client characteristics and other stressors on burnout?
2. Do client characteristics predict burnout and other strains differentially?
3. What is the mechanism through which client characteristics affect burnout?
4. Is the stressor-strain relationship supported by the study data?

Additional variables specified for the study are work load and social

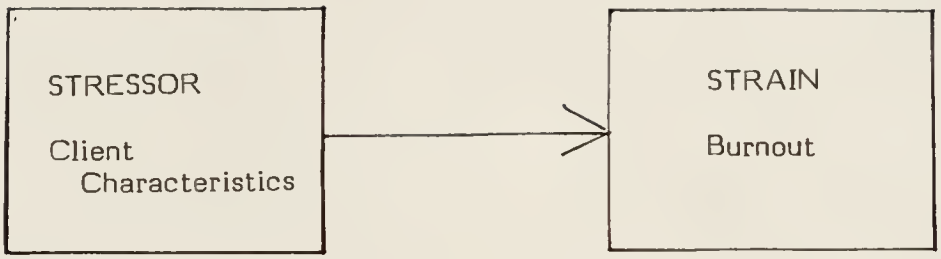


Figure 2-1 Effect of Particular Stress on Specific Strain

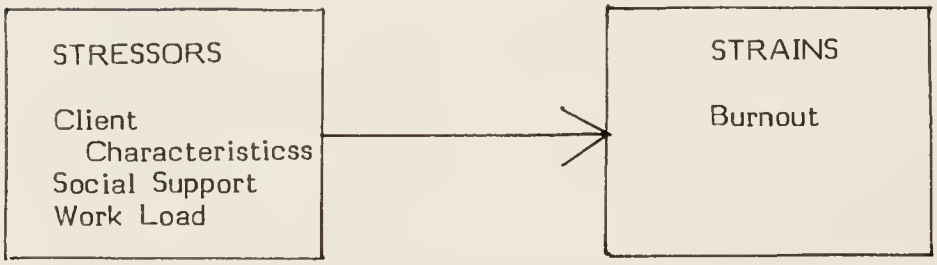


Figure 2-2 Relative Effects of Particular Stressors on Single Strain

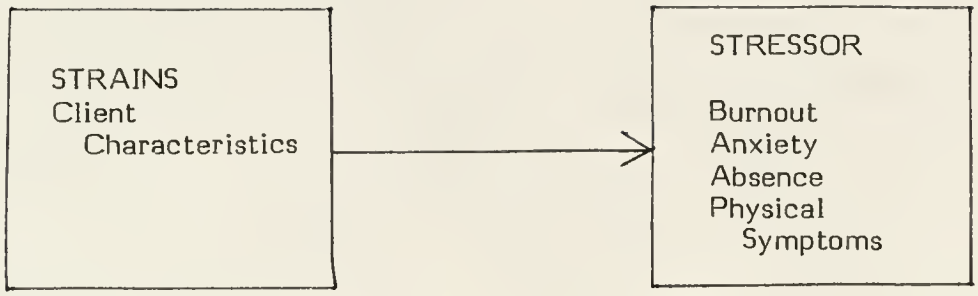


Figure 2-3 Variable Prediction of Specific Strains By Single Stressor

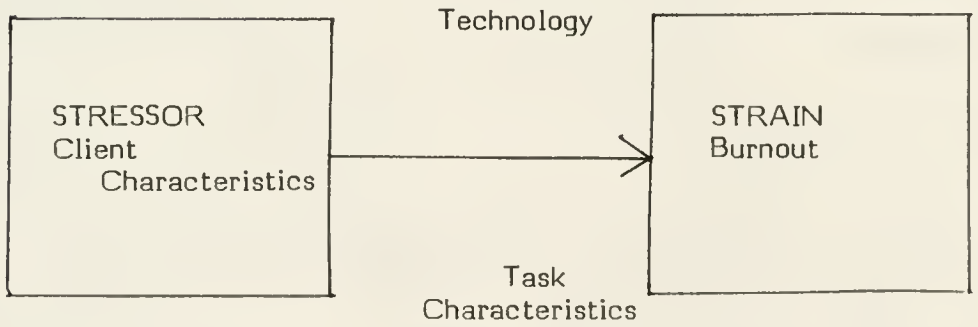


Figure 2-4 Direct and Indirect Effects of Particular Stressor on Specific Strain

support (stressors), anxiety, absence and physical symptoms (strains), and task characteristics and technology (intervening variables). Models representing the framework used for exploring the relationship among the specified variables are represented by figures 2-1, 2-2, 2-3, and 2-4.

In this chapter, following a brief review of the general literature demonstrating the relationships of work-related factors to stress, a review of the more specific literature is used to develop the rationale for the inclusion of each variable in the study, to present results of empirical studies that included the variables, and to evolve hypotheses relevant to the research questions. An effort has been made to organize the literature review so that studies relative to the core relationship being examined (client characteristics to burnout) are presented first, followed by those dealing with the other specified stressors and their relationship to burnout. The literature relevant to each additional specified strain and its relationship to client characteristics is then introduced. Finally, the intervening variables and their relationships to the specified strains are discussed.

## The Study of Work-Related Stress

Researchers' efforts to specify causes and consequences of work-related stress have resulted in a diversity of approaches to study of the phenomenon. One general approach (Kasl, 1978) involves comparison of the relative prevalence of stress among groups whose members are alike on some dimension, such as occupation, occupational level, unit membership or type of organizational role (e.g., line or staff). Having determined that stress is more prevalent in one group than another, the researchers search for explanations of the differences. For example, Zaleznick et al. (1977) found that managerial personnel, compared

to staff or operations personnel, experience lower levels of stress, and attributed the difference to what they termed the "bureaucratic effect". Gore (1978) found that rural unemployed experienced lower levels of stress than urban unemployed, and attributed the difference to varying degrees of social support. Kornhauser (1965) found that mental health is directly related to occupational skill level and, because neither "prejob" personal factors nor selection procedures appear to account for the difference, attributed it to the nature of the work.

Cooper and Marshall (1976) noted that a trend in stress literature appeared to be toward looking at significant job components instead of toward broad occupational level or discrete occupational groupings for predictors of stress. This approach involves researchers' using theory, previous empirical findings and/or their own observations to identify factors in the work environment thought to be related to stress, and stress responses thought to be related to factors in the working environment. Gavin and Axelrod (1977), for example, found that scores on an affective scale which included measures of anxiety, depression and irritation, increased with increases in ambiguity, role conflict, and work load, and with decreases in job security, participation, and skill utilization. In a series of studies undertaken through the University of Michigan's Institute for Social Research (IRS), researchers have used this approach to identify work-related stressors including role ambiguity (Kahn, Wolfe, Quinn & Snock, 1964), role conflict (Caplan, 1971; Kahn et al., 1964; Sales, 1970), and overload (French & Caplan, 1973). French and Caplan (1973), in a summary of the IRS studies of job stress, indicated that they have identified nine strains: job dissatisfaction, job tension, lower self-esteem, threat, embarrassment, high cholesterol levels, increased heart rate, skin resistance, and increased smoking.

Despite the large "gaps" in our knowledge about stressors and strains, and the relationships between and among them (Cooper & Marshall, 1976), and regardless of the research approach chosen, the evidence clearly indicates that relationships exist between factors in the work place and stress experiences of those who work there.

## Variable Specification, Literature Review, and Hypotheses

### Client Characteristics

Concept and Defintion. Because they are, in essence, both consumers of service and the raw material upon which the service is performed, clients in human service organizations have a critical impact on organizational functioning. In fact, Hasenfeld (1978) has asserted that "the essential character of any human service organization will be manifested through the patterned relations between its clients and staff, relations which are the raison d' etre of the organization" (p. 184). These patterned relations constitute a social system (Katz and Danet, 1973) in which the interpersonal event (Jermier, 1982) is the primary and definitive transaction.

The client-organization or client-helper interaction may be viewed from a number of perspectives. Hasenfeld (1978) noted that one research tradition has explored client attributes as determinants of client's utilization of available services, and that a second has focused on organizational influences on client-staff interaction. Other approaches (Danet, 1981; McKinlay, 1975) have been primarily concerned with the distribution of control in the relationship, reflecting a concern that clients will not be served by agencies in which they have no influence. Wills (1978) approached the review of literature relevant to the client-helper interaction with the declaration that "the helper's perception of a client's personality is an important aspect of therapeutic relationships" (p. 968).

Each of these approaches implies a primary concern with the effect of the client-staff interaction on the client. An alternative approach explores the consequences for the helper of various traits of the client and characteristics of client-helper transactions. Mennerick (1974) discussed the client-staff relationship as one that produces conflict for the helper, and the typing of clients as a process useful for coping with the stress resulting from the conflict. Maslach (1978) emphasized the demanding nature of the client-helper interaction for the helper, noting that "the providers of human services are usually required to work intensely and intimately with people on a large-scale, continuous basis. They learn about these people's physiological, social and physical problems and are expected to provide aid or treatment of some kind" (p. 112). These required interpersonal events, which are frequently emotion-laden, can be very stressful to client and helper. Recent work by Cherniss (1980), Maslach (1978; 1982), and Jones (1981) emphasized the high costs to helpers of these client-professional encounters.

A number of authors have suggested dimensions of clients' identities that influence responses of professionals. Danet (1981), in her review of the relevant literature, identified sex, race, appearance, and similarity of client to helper among factors that affect helper response. McKinlay (1975) contended that, because the status of clients is reflected in the status of professionals serving them, the status of an individual is an important determinant not only of type of helper response, but also of whether the person will be accepted for treatment. Lefton and Rosengren (1974) noted that, although the helping agency usually provides services for only one aspect of the client's person, the <u>whole</u> person is

presented. They suggested that the specific and contrasting interests that organizations have in clients may be characterized on two dimensions: laterality and longitudinality. The former dimension refers to the biographical space: whether it involves many or a single aspect of the client's life; and the latter refers to biographical time: whether it involves the full history and future of the indivdual or a brief, circumscribed period. Shinn's (1979) observation that there are two types of stressors in the work environment, stressful events and ongoing stressors, is related to the longitudinal dimension. Client problems may be emergent and acute, or they may be chronic.

Wills (1978), after reviewing the literature relevant to helpers' perceptions of clients, concluded that helpers categorize clients along three underlying dimensions (manageability, treatability and likeability), based on the helper's response to three questions about the client: "To what extent will the client pose a management problem? To what extent will the client improve? To what extent will I like the client?"

Maslach (1978) identified three sources of stress for the helper in the client-helper relationship: "type of problems facing the client, the nature of the staff member's relationship to the client and rules regulating the relationship, and the client stance and reactions to staff" (p. 114). Problems of the client impact the relationship because they cause the focus of the interaction to be on negative aspects of the client. In addition, the number, intensity, and timing of interactions required to address the problem, the degree of stress implied by the nature of the problem, and the probability that the problem is solvable all relate to the type and intensity of the impact that the problem will have on the client-helper relationship.

Based upon this summary of a review of the relevant (primarily) conceptual literature, a measure of client characteristics is used as the independent variable of primary interest in this study. In this context, the client characteristics concept refers to the evaluative and descriptive assessment of aspects of the client's identity that are relevant to his/her role as client.

Empirical Evidence. Several studies that relate client characteristics to affective or general stress responses were found. Caplan (1972) reported that responsibility for people appears to be associated with cigarette smoking and with diastolic blood pressure, both of which increase risk of coronary heart disease. In a survey of British male employees, Cherry (1978) found that contact with people was a significant predictor of nervous strain, even with the level of functioning, the most powerful predictor used, in the model. Kahn (1974) reported finding that dealing simultaneously with people inside and outside the organization (boundary spanning) was productive of conflict, while Miles (1980b) found in a study of research and development roles, that the linking and coordinating activities of boundary spanners led to role conflict when information gathering and transfer were controlled, but that information gathering and transfer activities were unrelated to role conflict when linking and coordinating activities were controlled. Futhermore, both information gathering and transfer activities and linking and coordinating activities were positively related to satisfaction. It appears, then, that the client interaction, even when conceptualized in a relatively unfocused manner (i.e., as responsibility for, contact with) is related to strain and to other affective outcomes. The Miles (1980b) results signal the importance of recognizing that a single work factor may have both negative and positive consequences.

Evidence also exists in the literature that more narrowly focused conceptualizations of client characteristics are related to stress among helpers. Difficult clients were among the leading five causes of emotional stress listed by caregivers (Koocher, 1979), and nurses identified changed physical or psychological condition of patients as a major stressor (Vreeland & Ellis, 1969). Pratt (1979), in a study of primary grade teachers, found that hostile acts and non-cooperative acts of students were the two most commonly identified stressful events, and that financial hardship of children's homes is strongly related to teachers' viewing their jobs as stressful and difficult. In a study conducted among policemen, Jermier (1982) found that environmental danger, which is defined by the nature and distribution of interpersonal events and was measured objectively, was a significant predictor of performance, but not of commitment. Jermier, Gaines, and McIntosh (1983), however, found that perceived physical danger was negatively related to commitment and pay satisfaction and unrelated to intrinsic satisfaction.

In summary, a variety of empirical approaches has provided general support for a client characteristics-general stress relationship, but the relationships are sometimes (Miles, 1980b; Jermier, 1982) not in the expected direction and/or not of the expected intensity.

Relationship of Stress Among Nurses. Maslach (1978) suggested that work place stressors for health professionals include a frequent need to work with too many patients, the necessity for making critical decisions with inadequate information, and the potential seriousness and costs of making poor decisions. From her review of relevant literature, Marshall (1980) identified a number of stressors in the nursing job itself: heavy physical work, work overload, the actual unpleasantness of the tasks, the need to use sophisticated equipment skillfully, and lack of privacy in the work place.

It seems reasonable to assume that because nursing by defintion involves direct contact with clients, and the contact may be emotionally charged (Maslach, 1978) and/or physically demanding, nurses are particularly vulnerable to client-related stress in the work place. Several factors, related to the concept of stress as threat, appear to contribute to this vulnerability. Nurses experience a threat to competence (Cherniss, 1980; Kramer, 1974, Marshall, 1980). In fact, in a list of potentially stressful conditions and events generated from and rated by nurses, insecurity about knowledge and competence was rated as being among the three most stressful items (Jacobson, 1978). The nurse's sense of competence may be threatened because she lacks information that would be helpful to patients and their families (Marshall, 1980; Maslach, 1978) or because she fears failure. Koocher (1979) observed that the idea of failure is noxious to health care professionals, and that for workers whose training and socialization require them to value healing, untreatable patients represent failure.

Exacerbating these related stressors of threat to competence and threat of failure is the high degree of visibility inherent in the nurse's work. She is not spared, as Zaleznick et al. (1977) demonstrated that managers are, from continuous evaluation. Ironically, her failures are more readily evident to her and to others because of their immediacy and visibility, and her successes often leave and are never heard from again. The costs for nurses of the simultaneously occuring conditions of threat and visibility (with its corollary condition of lack of privacy) are compounded by the expectation that nurses will show no symptoms of stress among patients, families, physicians or colleagues; the fact that stress experienced by nurses is not an acceptable area of concern; and the requirement that the nurses assist patients and their friends and families in dealing with their stresses.

The patient-nurse relationship is central to the potential stress experience of nurses. It is within the context of this relationship that competence is demonstrated or failure occurs and it is with the patient that these results are most visible. Pines and Kafry (1978) observed that "most everyday human relationships are symmetrical, but the therapeutic relationship is complementary: one person gives, the other receives" (p. 499). While it is obvious that satisfaction also accrues from the patient-nurse relationship, a number of stressful aspects of the interaction have been identified.

Cobb (1974) identified responsibility for persons--particularly for the future of persons--as a stressor, and suggested that the less distance between the worker and the persons for whom she is responsible, the more strain will result. Similarly, Maslach (1978) asserted that the frequency of contact with clients is related to the amount of burnout experienced.

French and Caplan (1973) summarized findings that demonstrated that boundary spanning activities among workers are related to experienced role conflict. The necessity for nurses to interact frequently with persons external to the unit--including families and friends of patients, providers from within the hospital of auxiliary services, and physicians--suggests vulnerability to stress from this source.

Nurses must also deal with the stress that accompanies giving personal care to patients whose conditions they may find extremely unattractive. In a study by Vreeland and Ellis (1969), nurses identified the changed physiological condition and/or psychological impact of a patient's illness or treatment as the most stressful part of the job. Hay and Oken (1972), cited above, described

the ICU as "a situation that involves . . . intimacy with the frightening, repulsive and forbidden. Stimuli are present to materialize literally every conflictual area at every stage of psychological development" (p. 122).

Another class of patients whose problems are particularly stressful for nurses is that of the dying patient. Dealing with the dying provides a constant reminder to the nurse of her own mortality, presents her with a failure in terms of her training and commitment to heal, and places extreme demand on her for both emotional control and giving emotional support. Marshall (1980) observed that the trends (hospices notwithstanding) toward dying in hospitals and toward reducing the number of nurses with whom each patient interacts lead to more constant dealing with dying patients by some nurses.

Clients can represent physical danger to nurses in several respects. On some units, nurses are actually subject to exposure to communicable diseases. They are frequently required to do heavy lifting and other physically difficult work, and are sometimes subject to erratic behavior of irrationally ill patients.

A somewhat less obvious stress that results for nurses as a result of the patient-nurse relationship involves ethical issues. For example, with the legalization of abortion, nurses, who may or may not believe that abortion is morally acceptable, are caught in a conflict between the role of life-saver and the act of life-taking.

These and other obvious and subtle implications of the patient-nurse relationship, coupled with the vulnerability of nurses to threat, support Marshall's (1980) conclusion that "the job of nurse incorporates several distinctive features which set it apart as a special case in the stress literature" (p. 20).

## Burnout

### Concept and Definition.

Although there is not general agreement about whether it gives a name to a problem that has been prevalent over the years, describes a problem of recent development, or creates a problem (Maslach, 1978; Paine, 1982), the term "burnout" has appeared with increasing frequency in both scholarly and popular publications in the last decade. The burnout phenomenon can be conceptualized in terms of persons who are at risk, predisposing conditions, general stressor antecedents, the process by which it occurs, and the indicators of its presence.

Persons considered most at risk of experiencing the burnout phenomenon are those in professions with a high degree of people contact (Perlman & Hartman, 1982) who work "intensely and often intimately with people troubled by physical, psychological and/or social stress" (Jackson & Maslach, 1982, p. 64). These professions include nurses, physicians, police, counselors, psychologists, teachers, and ministers.

Freudenberger's (1975) description of the committed worker outlines conditions that seem to predispose workers to the experience of burnout. First, the desire to help creates, in itself, a pressure that pushes the worker to try harder, but in reality can lead to lowered effectiveness. Second, the populations served by helping professionals are often in extreme need and so "continually take, suck, demand" (Freudenberger, 1975, p. 75). In addition, work which was initially exciting to the professional becomes dull and monotonous. These conditions may well render the helper vulnerable to a variety of stressors, including problems associated with self-doubts about competence, impatience with lack of client motivation, bureaucratic interference, and difficulties with peer relationships (Cherniss, 1980).

Maslach and Pines (1977) have described the process by which the people, conditions and stressors interact to result in burnout. Helping

> professionals are required to work intensely and intimately with people on a large-scale and continuous basis. They learn about these people's . . . problems and are expected to provide treatment of some kind. . . .This type of professional interaction arouses strong feelings of emotion and personal stress which can be disruptive and incapacitating. In order to perform efficiently and well in such situations, the professional may defend against these strong emotions through techniques of detachment. By treating one's clients or patients in a more remote, distant way, it becomes easier to perform the necessary interviews, tests or operations without suffering strong psychological discomfort (p. 100).

Among indicators that the burnout process has in fact occurred, according to Carrol and White (1982), are a significant decrease in the quality of services provided customers or clients, poor staff morale, and increased negative behaviors such as employee theft, drug abuse and accidents.

Burnout has been defined as a special and distinctive kind of emotional exhaustion (Maslach, 1978), and in terms of outcomes (Carrol & White, 1982). Although Kahn's (1978) inclusion of (inappropriate) attitudes toward clients and toward self is similar to many definitions, his specification of physical symptoms is not. Maslach (1982) has noted that despite the variety in the definitions of burnout, there are three areas of general agreement: 1) "burnout is a phenomenon that occurs at the individual level"; 2) "burnout is an inner psychological experience involving feelings, attitudes, motives and expectations"; and 3) "burnout is a negative experience for the individual, in that it concerns problems, distress, discomfort, dysfunction and/or negative consequences" (p. 32). Maslach has also suggested that there is basic agreement on three underlying dimensions of burnout: exhaustion or fatigue; a change toward more negative responses to others; and a change toward more negative evaluation of oneself. For the purposes of this study, burnout is defined "as a syndrome of physical and emotional exhaustion, involving the development of negative self concept, negative job attitudes, and loss of concern and feeling for clients" (Pines and Maslach, 1978, p. 233).

Empirical Evidence. Although a large number of articles and books have been published on burnout, there have been relatively few empirical studies using the burnout variable with a variety of work place stressors. Cherniss (1980), in a longitudinal, qualitative study of 28 new professionals, discovered that in his sample, which included male and female subjects, increased burnout was associated with lack of goal clarity, low intellectual stimulation, and decreased autonomy at work. Contrary to expectations created by the non-empirical burnout literature, increased client contact was associated with increased positive attitudes. Pines and Kafry (1978), in a study of social workers in which the population was 85% female, found that worker relations and work sharing were negatively related to tedium. Tedium is a strain that is defined in terms of emotional exhaustion and burnout, and related to a desire to leave the job, negative attitudes toward clients, and negative work attitudes. In a study of child abuse workers conducted by Berkeley Planning Associates (1977), poor progam leadership, low staff communication, little supervisory responsibility, and high levels of rule formalization were associated with higher levels of burnout. Barad (1979) found that poor quality of leadership was a predictor of burnout among Social Security field contact employees, also. In similarly designed studies of day care workers (Maslach & Pines, 1977) and of mental health workers (Pines & Maslach, 1978), the researchers found that the number of time outs possible for the helper was negatively related to burnout. This possibility of respite had the concurrent effect of reducing the relative amount of direct client contact. Jones (1981), however, found that increased unauthorized work breaks were associated with higher incidence of burnout among a sample of nurses. In the day care setting increased program structure was related to less positive appraisal of the working situation and to decreased burnout.

In summary, it appears that among professionals lack of some degree of control or influence in the work place (autonomy, Cherniss, 1980a; time out possibilities, Maslach & Pines, 1977, and Pines & Maslach, 1978; rule formalization, Berkeley Associates, 1977), low intrinsic motivating properties of the job (stimulation, Cherniss, 1980; supervisory responsibilty, Berkely Associates, 1977), and unsatisfactory social interaction at work (poor superivsion, Barad, 1979; low staff communication, Berkeley Associates, 1977; work relations and work sharing, Pines & Kafry, 1978) are related to increased incidence of burnout. On the other hand, clear direction is related to lower incidence of burnout (program structure, Maslach & Pines, 1977; goal clarity, Cherniss, 1980). The only unexpected finding was the negative relationship between client contact and burnout (Cherniss, 1980), and the conflicting findings regarding time out (Maslach & Pines, 1977; Pines & Maslach, 1978; Jones, 1981). It may be that time away from the job serves either an escapist or a preventive function.

## Client Characteristics-Burnout Relationship

Empirical Evidence. Of the relatively few empirical studies done on burnout, several report on the effect of some aspect of the client-professional relationship on burnout. Pines and Kafry (1978) found that number of clients served by the social workers in the study was significantly related to the incidence of burnout. Similarly, Maslach and Pines (1977) and Pines and Maslach (1978) found that the ratio of clients to staff was a significant correlate of burnout, with an increase in the ratio associated with an increase in burnout. Pines and Maslach (1977) also found that contact time with patients and increased incidence of schizophrenia among patients were related positively and significantly

with burnout. Barad (1979) reported that unrealistic client expectations are associated with increases in burnout. Koocher (1979), in his descriptive study of caregivers, found that the subjects rated "difficult patients" among the top five correlates of burnout. In his study of new professionals, Cherniss (1980) reported that the degree of client motivation and ability, the manipulativeness of clients, and the role of clients as critics were all factors that could produce either satisfaction or strain for the helpers.

Client characteristics, it appears, are related to burnout across at least three dimensions: 1) characteristics of the contact with the client (Cherniss, 1980a); 2) type of problem (Barad, 1979; Koocher, 1979; Pines & Maslach, 1978); and 3) number of clients (Maslach & Pines, 1977; Pines & Kafry, 1978; Pines & Maslach, 1978).

Hypotheses. Hypotheses regarding the relationship between client characteristics and burnout are:

$H_{1a}$: The underlying dimensions of relevant client characteristics are manageability, treatability, and likeability.

$H_{1b}$: Positive evaluation of client characteristics is negatively and significantly related to burnout.

## Work Load

Concept and Definition. Work load has been conceptualized by Coburn (1975) in terms of job-worker congruence. Coburn suggested that when demand to perform exceeds capacity to perform, work overload exists, and when capacity exceeds demand, work underload exists. The former creates stress; the latter is accompanied by frustration. Beehr and Newman (1978) interpreted research

on role overload in terms of ability, indicating that the experience of role overload might actually reflect on the ability of the employee to do the work assigned in the allotted time period.

In a series of studies conducted through the University of Michigan Institute for Social Research, the concept of work load has been refined within the overall framework of role conflict. Sales (1970), defined role overload as a condition in which "the focal person is faced with obligations which, when taken as a set, require him to do more than he is able to do in the time available" (p. 593). Later, the work of French, Tupper, and Mueller (1965) which had differentiated between qualitative (having work that is too difficult or too easy) and quantitative (having too little or too much to do) work load was replicated in research at Goddard and Kennedy Space Centers, resulting in a general agreement that work load refers to the amount and the difficulty of the set of tasks assigned to an individual, relative to the time allotted for their achievement.

Empirical Evidence. Five studies of the association of work load and strain, based on surveys of large samples, are reviewed. Margolis and Kroes (1974) found that role overload is related to an increase in escapist drinking, and a decrease in self esteem, motivation to work, and frequency of suggestions made to employers. Cherry (1978) reported that work load added significantly to the prediction of strain, even when level of functioning, which explained two-thirds of the strain in the sample, was already entered in the model. Kohn and Schooler (1973) found that a composite measure of job pressure predicted job satisfaction but not organizational commitment. Time and dirtiness, two factors of the composite measure, were negatively related to job satisfaction and unrelated to commitment, while heaviness of work was unrelated to either strain. House, Wells, Landerman, McMichael & Kaplan (1979) reported that even with

demographics and risk-related factors including smoking behavior, exposure to chemicals, obesity, and physical activity controlled, work load was a significant predictor of neuroticism, a strain measure including anxiety and depression. Caplan et al. (1975) reported that subjective quantitative work load was correlated with depression and irritation. A reanalysis of these data by La Rocco, House, and French, Jr. (1980) revealed that there was also a work load by coworker support interaction effect on worker dissatisfaction. In an analysis of Swedish and American worker survey data, Karesek (1979) found that increased job demand is positively related to increased exhaustion and depression. However, when decision latitude is congruent with job demand, the result is task directed activity instead of stress.

A number of other studies have used different methodologies to investigate the work load-strain relationship. Frankenhaueser and Gardell (1976), who are attempting to bring together field study and laboratory methodology in the study of the effects of work place stressors on strain, asserted that work overload and work underload result from advanced technology. For example, the machine-paced job represents overload because of a push for production that requires constant attention, and underload because the work is machine-paced, allowing the worker no discretion. Their findings confirmed that machine-paced in contrast with man-paced jobs led to increased production of catecholamines and increases in self-reported strain.

Hay and Oken (1972), in their descriptive study of ICU's, observed that increased work load led to increased stress for nurses. It was their perception that the noxious stimuli present in the work place lowered the overload threshold for ICU nurses. Jacobson (1978) suggested that adequate staffing permits nurses to take other pressures in stride.

In a longitudinal study using college students as subjects, Caplan and Jones (1975) found that changes in work load caused changes in anxiety and tension, but not in heart rate. Sales (1970), in a laboratory study, found that objectively measured overload caused increased errors, productivity and tension, and decreased self-esteem. Subjective overload caused higher experienced time pressure, greater feelings of tension and anger, and higher enjoyment of task. The objective measures, as might be expected, appeared to be better predictors of "hard data" outcomes while the subjective measures predicted self-report outcomes.

The literature reviewed indicates that work load is positively related to psychological, physiological and behavioral strains. Included among the psychological strains were general strain (Cherry, 1978; Frankenhaueser & Gardell, 1976), neuroticism (House et al. 1979), exhaustion and depression (Karasek, 1979), anxiety and tension (Caplan & Jones, 1975; Sales, 1970), and depression and irritation (Caplan et al. 1975). Physiological strains included in the studies were catecholamines (positively related, Frankenhaueser & Gardell, 1976) and heart rate (unrelated, Caplan & Jones, 1975). Behavioral strains positively related to increased work load were escapist drinking (Margolis and Kroes, 1974) and productivity (Sales, 1970).

Only one empirical study relating work load specifically to burnout was located, although speculation about the extent of the relationship abounds in the conceptual literature. Berkeley Planning Associates (1977), in a correlational study conducted among child abuse workers, found that control over work load and burnout were inversely related.

Hypotheses relative to work load and burnout are:

$H_{2a}$: Work overload is positively and significantly related to burnout.

$H_{2b}$: When client characteristics are positively evaluated, work load is unrelated to burnout.

## Social Support

Concept and Definition. In the social support literature "social relationships are hypothesized to expand or contract the individual's capacity for managing stress" (Karesek, Triantis & Chaudhry, 1982, p. 182). Social support, characterized by Gore (1978) as a relatively stable characteristic of the individual's interaction with his social environment, derives from a number of sources, including coworkers, supervisors, peers, and family and friends.

The effort to delineate the dimensions underlying the social support construct has produced a number of typologies. For example, Karasek (1979) identified trusting social relations and instrumental support as primary dimensions while Cobb (1976) has suggested that the dimensions are emotional, esteem and network. House (1981) has proposed four dimensions that are conceptually inclusive of all of the other typologies (Gaines, in process): emotional, instrumental, informational and appraisal. La Rocco et al. (1980) asserted that "although there are many potential types of social support . . . the data . . . in most studies of social support largely tap emotional supportiveness" (p. 204).

In addition to the issues of sources and types of social support is the question of the type of relationship that social support has to stress outcomes of interest. Analyses of social support have treated the construct as both an independent variable and as a moderating or conditioning variable. When treated as an independent variable, social support is hypothesized to exert a direct or main effect by functioning as a negative stressor or strain, and/or as a positive health outcome. When treated as a moderating variable, social support is most

often hypothesized to exert a buffering influence on the relationships between stress and outcomes. For example, high social support would be expected to reduce the impact of a stressor on a strain (House, 1981). More recently, Seers, McGee, Serrey, and Graen (1983), following a review of the mixed results of studies testing the buffering hypothesis, suggested the coping hypothesis as an alternative conceptualization of the moderating effect of social support on strain. The coping hypothesis suggests that, in the presence of high levels of stress, social support will increase levels of positive and decrease levels of negative outcomes. Seers et al. (1983) tested the three hypotheses regarding the effect of social support on stress: $H_1$: Social support affects strain directly and simultaneously with other independent variables; $H_2$: Stress and social support interact to affect strain, with stress negatively related to strain for individuals with high support and unrelated to strain for those with low support; or $H_3$: Stress and social support interact to affect strain, with support negatively related to strain for individuals in a high stress condition and unrelated to strain for individuals in a low stress condition. $H_3$ is the coping hypothesis. Seers et al. (1983) found moderate support for the direct effects hypothesis and strong support for the coping hypothesis. The buffering hypothesis was unsupported.

Although Cobb (1976) asserted that researchers should not expect to find significant main effects of social support, most researchers agree with House's assertion "that main effects are . . . obvious to most people" (1981, p. 32). Empirical evidence regarding main effects of social support is presented below. There is, however, considerable disagreement regarding buffering effects in both the conceptual and the empirical literature. One source of disagreement involves the choice of statistical approach. Although moderating effects on a variable are frequently analyzed by the addition of an interaction term to a moderated regression model, the results of this approach are difficult to interpret. Because,

as Seers et al. (1983) pointed out, the term is symmetrical, it is difficult to infer with any certainty which is the predictor and which is the moderator variable. An alternative approach to testing for buffering effects involves subgrouping based on social support scores and analyzing for differences between subgroups. The evidence regarding buffering effects of social support is confusing. Evidence supporting the buffering effect was found in studies conducted by Gore (1974), House and Wells (1978), and La Rocco et al. (1980), while a notable study which was among the first to test the buffering hypothesis (Pinneau, 1976) revealed that the number of significant interactions between social support and predictor was not more than the number of interactions that might be expected to occur by chance. Similarly, Gavin and Axelrod (1977), in their study of 95 management level employees in an underground mine, found no support for the buffering effect of social support on the stress-strain relationship.

Although social support has been incorporated into the study of stress as a "legitimate" construct, and has generated considerable speculation regarding the dimensionality and the form of its relationship to the stress experience, a commonly accepted definition of the term has not yet been specified. Social support has been defined as a feeling, as information, and as social relationship. Moss (1973), who defined support as "the subjective feeling of belonging, of being accepted, of being loved, of being needed all for oneself and not what one can do" (p. 237), emphasized the fact that social support is not conditional on acheivement and thus provides an alternative source of a sense of worth. Cobb's (1976) definition of social support as "information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligation" (p. 300) indicates that the essence of social support is external to the subject (information) as opposed to internal to the subject (feeling). For

the purposes of this study social support refers to the belief or feeling that assistance, acceptance, and esteem are available from significant others.

Empirical Evidence. A number of studies examine main effects of social support on stressors, general measures of strain, and physiological strain. Caplan et al. (1975), in their study of a stratified sample of 318 representatives of 23 occupations, found that each of their four support scales (supervisor, colleagues, family and friends, and participation) was negatively related to stressors (role ambiguity, underutilization of skills) and to psychological strains (dissatisfaction, depression), but not physiological strains (heart rate, cholesterol, uric acid). This finding is particularly intriguing because French (1974) reported significant conditioning effects of social support on physiological but not on psychological strains. Pinneau (1976) found that support, in general, was negatively correlated with affective strains and support specifically from supervisors was negatively correlated with some job stressors, including role conflict and ambiguity, utilization of ability, complexity, and unwanted overtime. Pinneau (1976) found an insufficient ratio of significant to insignificant interaction effects to infer a buffering effect. Seers et al. (1983), in their study cited above of predominantly female respondents (N = 104) who all had the same job title in a large federal government agency, examined direct and interactive effects of four types of social support (family and friends, coworkers, branch manager, and unit manager) in a design that included role conflict and role ambiguity as stressors, and four facets of job satisfaction as strains. Support measures correlated negatively and significantly with stressors in three of eight relationships. Support measures correlated significantly and positively with satisfaction measures in five of twenty relationships tested.

Karasek et al. (1982), in an extension of their analysis of the survey data of workers from Sweden and the United States, were concerned primarily with

the conditioning effect of social support. They interpreted correlations between their independent variable, task strain composite, and their social support measures as indicators of independence of the constructs examined. These correlations between social support and stressors have been considered direct effects in other studies. Although significance levels are not reported, given the large sample sizes it appears that eight of the fourteen relationships examined are significant, which could be interpreted as evidence supporting the existence of a main effect of social support on stressors. The authors examined correlations between support variables and strain measures as evidence of a direct effect of support on strain, and concluded that, in general, the effects are strong and in the predicted direction.

The Karasek et al. (1982) study provides support for a hypothesis of direct effects of social support on stressors and strains. Limited support is also provided by the other studies reviewed, despite the fact that many of them were undertaken primarily as a test of the buffering hypothesis. The findings of Caplan et al. (1975) that social support has a direct effect on psychological but not physiological strains, and the findings reported by French (1974) that interactions of stressor and social support affect physiological but not psychological strains suggest one possible approach to sorting out the confusion relative to results of social support research. Another approach is suggested by the introduction by Caplan et al. (1975) of the question of substitutability of one form of social support for another. It is possible that a general measure of support, without specification of referent, would yield useful information.

Four studies were reviewed that examined the main effects of social support on burnout. None of these authors reported testing for buffering effects. In his descriptive study of 28 new professionals, Cherniss (1980) found that new

professionals value collegial support of an emotional, informational and/or evaluative nature, but only five of the twenty-eight felt that they had received such support. Cherniss (1980) concluded that this lack of support contributed to the high incidence of burnout among the professionals.

In their study of child care workers, Maslach and Pines (1977) included number and importance of staff meetings among the predictor set, with dehumanization, a variable similar to the depersonalization dimension of burnout, as a dependent variable. Interviews indicated that staff meetings were viewed, among other things, as enabling "the staff to socialize informally and to give each other support. . ." (p. 109). Number of staff meetings was positively and significantly correlated with positive evaluation of work conditions and with worker relations. Pines and Kafry (1978), in their study of 129 social service workers, 84% of whom were female, measured social support as social feedback, work relations, and work sharing. The dependent variable in the study was tedium, which is very similar in its conceptualization to the emotional exhaustion dimension of burnout. Pines and Kafry (1978) found that each support measure was negatively and significantly related to tedium. Maslach and Jackson (1982), using a nursing sample, found that support and recognition from coworkers and from supervisors was negatively and significantly correlated with emotional exhaustion, and that being able to discuss work with friends and perceived support from friends were positively associated with personal accomplishment.

Among these studies is evidence that social support has a direct effect on strain. Cherniss (1980) offered qualitative evidence that lack of social support contributes to the overall burnout syndrome; the findings of Maslach and Pines (1977) support the hypothesis that social support reduces depersonalization; Pines and Kafry (1978) demonstrated that social support reduces emotional exhaustion;

and Maslach and Jackson (1982) add evidence that social support reduces emotional exhaustion and provides support for the hypothesized positive relationship between social support and a sense of personal accomplishment. It is important to note that in none of these studies was social support measured using the Institute for Social Research items, as it has been in many studies relating social support to other dependent variables. Hypotheses suggested by the social support literature are as follows::

$H3_a$: Social support is negatively and significantly related to burnout.

$H3_b$: When client characteristics are positively evaluated, social support is unrelated to burnout.

## Anxiety

Concept and Definition. Margolis and Kroes (1974) identified, as among five types of job-related strain, those which are short term and occur in "close temporal proximity" (p. 15) to specific job stressors. Among these short term strains is anxiety. Anxiety, as other emotional reactions, may be enduring over time, in which case it is recognized as a relatively enduring personality characteristic termed "trait anxiety". Lazarus (1966) stated that "anxiety is the inevitable accompaniment of being threatened" (p. 322). In response to the contention of some psychologists that anxiety is an affective state with no external referent, Lazarus (1966) insisted that "the emphasis on the internal source of anxiety misses the point that there must also be some counterforce in the environment or internalized from the environment to make an impulse threatening" (p. 66). May (1983) and Spielberger, Lushene and McAdoo (1977) labeled the counterforce in the environment (which in the stress research paradigm

used in this study is termed "stressor") stress, and concurred that the cognitive evaluation of the objective reference as dangerous produced threat. Anxiety, then, may be conceptualized as "how the individual relates to stress, accepts it" (May, 1983, p. 142). The degree and duration of the affective response, which is unpleasant and may interfere with adaptive activities, reflect the degree of threat perceived.

For purpose of this study, state anxiety is defined as "subjective, consciously perceived feelings of tension, apprehension and nervousness accompanied by or associated with activation of the autonomic nervous system" (Spielberger, 1975, p. 137).

Empirical Evidence. Although anxiety has been operationalized in a variety of ways, a review of studies of anxiety in work organizations suggests that job related stressors are evaluated as threatening. Several studies used a measure developed by Cobb (1970) for use in the Institute for Social Research stress research program. This approach to the operationalization of anxiety reflects a conceptualization of the construct that is very similar to Spielberger's (1975). For example, items used in the Caplan et al. (1975) adaptation of Cobb's (1970) approach include "I feel nervous" and "I feel jittery." Using this measure, Caplan and Jones (1975), who obtained three measures of responses of 73 male computer users to the impending and actual shut-down of computer services, found that change in work load and change in role ambiguity were significantly related to change in anxiety of the subjects. Furthermore, anxiety was found to covary with stress to a greater degree than either resentment or depression. Caplan et al. (1975) also used the Cobb (1970) operationalization of anxiety in their survey of employees from 23 occupations and found that work load was positively and significantly related to anxiety. La Rocco et al. (1980), after their reanalysis of the Caplan et al. (1975) data, reported that two additional

work stressors, role ambiguity and role conflict, as well as two other outcomes, boredom and job dissatisfaction, are positively and significantly related to anxiety. Using similar anxiety items, but reporting results based on inclusion of items on depression and irritation also, Gavin and Axelrod (1977), in a study of 95 managers from all levels, found that role conflict, role ambiguity and variation in work load were positively and significantly related, and that job security, participation, and underutilization of skills were negatively and significantly related to their composite strain measure. House et al. (1979) also reported that, among the blue collar tire and rubber factory employees surveyed in their study, a composite measure termed neuroticism and including the anxiety items from the Cobb (1970) operationalization was related to work load.

Several authors reported results based on anxiety scales that were included in more extensive surveys of mental health. Billings and Moos (1982) surveyed 214 employed male and 115 employed female members of families randomly selected from the San Francisco population. They reported that for men lack of autonomy on the job, lack of clarity, and work pressure were associated with increased anxiety, while low job clarity was the only predictor of anxiety for women. Interestingly, involvement, work group cohesion, and supervisory support were negatively related to anxiety for men, but these social support variables were unrelated to anxiety for women.

Gentry, Foster and Froehling (1972), in a study of 34 nurses in ICU and non-ICU units in a veteran's administration and a general medical center hospital, found that anxiety was higher among the medical center ICU nurses than among either the veteran's hospital ICU nurses or non-ICU nurses in the medical center. They interpret their findings to mean that, although ICU nursing can be highly stressful, as is commonly thought, it is not necessarily so, with the difference

resulting from such factors as the relative amount of help available and the availability of continuing education opportunities. In a survey of 1054 employees of Swedish industries reflecting a variety of technologies, Gardell (1976) found that workers in jobs that were low in job discretion and skill requirements, and in jobs with low pay, showed higher levels of anxiety than those whose work offered more discretion and higher pay. In their study designed to explore the relationships of dimensions of occupations to psychological functioning, Kohn and Schooler (1973) found that closeness of supervision, time pressure, likelihood of dramatic change, frequency of being held responsible for things outside one's control, and risk of losing one's job or business were all related to anxiety.

Although the State-Trait Anxiety Inventory (STAI) instrument designed by Spielberger, Gorsuch, and Lushene (1970) to measure anxiety has been widely-used in psychological and educational research, its use appears much less prevalent in organizational studies. Ganster, Mayes, Sime and Tharp (1982) used the STAI to assess the effectiveness of stress management training for reducing levels of anxiety experienced by their social work subjects. Results of the experimental study indicated that stress management training can be effective in reducing levels of anxiety, and that the change persists over time. Abdel-Halim (1982) reported that role conflict and role ambiguity were positively related and leader and work group support were negatively related to anxiety as measured by the STAI for his sample of 89 male managers from a large equipment manufacturing firm.

Several studies can be interpreted as reflecting the relationship of client characteristics to anxiety. Gow and Williams (1977) reported that nurses in agencies offering care to the chronically ill were more anxious than those in community health agencies or in agencies offering care to the terminally ill.

Mayer and Rosenblatt (1974) found, in an anecdotal study of 39 social work students, that client-worker relationships characterized by too much distance or too much closeness led to increased anxiety, as did client hostility toward the worker. Using an experimental design in which she examined the effects of sex of patients, type of unit (medical or surgical), and time order of assignment (first or second), Parkes (1982) reported that among student nurses anxiety was not predicted by either type of nursing (medical or surgical) nor by sex of patient, although anxiety was significantly related to a sex by time period interaction.

It appears safe to conclude that work-place stressors having to do with role conflict, role ambiguity, and work load may be expected to affect the level of anxiety experienced by members of an organization. The effects of characteristics of the client and the client-worker relationship on anxiety are less clear from the organizational literature. While the Gow and Williams (1977) and Mayer and Rosenblatt (1974) studies seem to provide support for assuming such a relationship, Parkes' (1982) study of student nurses does not. Also relevant to the point are the conclusions of Spielberger et al. (1977), based on their review of the psychological literature, that threat of physical danger and threat to self-esteem are associated with increased levels of state anxiety. Both types of threat appear to be a part of the client-helper relationship.

Although the lack of literature on the topic and the lack of agreement in findings in the few studies that are available make them somewhat exploratory, the following hypotheses are tested. Because burnout is a long-term, and anxiety a short-term psychological strain, it is expected that the two appear successively and not concurrently. It is also expected that anxiety will be related to the same stressors expected to be related to burnout.

$H4_a$: Anxiety and burnout are negatively and significantly correlated.

$H4_b$: Positive evaluation of client characteristics is negatively and significantly related to anxiety.

$H4_c$: Manageability and treatability are better predictors than likeability of anxiety.

Physical Symptoms

Conceptualization. A relationship between work-place stressors and physiological outcomes is hypothesized in a number of the stress models (Beehr & Newman, 1978; House, 1974; Ivancevich and Matteson, 1980; Schuler, 1980). Levi (1972) stated that "we know that psychosocial stimuli cause physiological changes, which in turn could lead to precursors and disease" (p. 19). As Ivancevich and Matteson (1980) indicated, the suggestion is not that diseases of adaptation to the physiological changes are "uniquely stress-induced or even primarily stress-based" (p. 19), but that stressors may lead to negative health consequences. Selye (1976) suggested that these consequences could include high blood pressure, heart and blood vessel diseases, kidney disease, rheumatoid athritis, digestive and metabolic disease, allergies, nervous and mental disease, and possibly cancer. It is thought that stressors affect these strains by altering mental processes, endocrine processes, lymphatic processes, and immunoreatice processes (Levi, 1972). The flight or fight response identified by Cannon (1929) is produced by the release of hormones when a situation is appraised as threatening. When unrestricted, this response triggers appropriate behavior "which eliminated the cause or source of the stressful correlation. It is becoming less feasible for individuals in organizations, however, to engage in either a flight or fight behavior, resulting in dysfunctional physiological reactions" (Schuler, 1980, p. 201).

Although House (1974) suggested that some types of occupational stress appear to relate specifically to particular diseases or clusters of diseases, Cassel

(1979) concluded that most evidence supports the viewpoint that particular psychosocial events or conditions "will not be etiologically specific for any given disease. The clinical manifestation of this enhanced susceptibility will not be a function of the particular psychosocial stressor, but of the psychochemical or microbiological disease agents harbored by the organism or to which the organism is exposed" (p. 47).

Physical symptoms represent a manifestation of physiological changes thought to be induced by threatening psychosocial conditions, including occupational stressors. House et al. (1979), for example, suggested that variables involving interpersonal tensions at work appear to affect the incidence of ulcers, and Cassel (1976) suggested that "not receiving adequate evidence (feedback) that . . . actions are leading to anticipated consequences" (p. 113) can constitute a disease-enhancing social situation. Each of these work-place stressors is potentially inherent in the client-helper relationship.

Empirical Evidence. A number of studies have found evidence supporting a hypothesized relationship between organizational stessors and physiological strains, although in some cases, the evidence is inconsistent. Zaleznick et al. (1977) found general support for an occupational stressor-physiological strains linkage. A comparison across occupations revealed that respondents from the operations and staff groups, which were the higher stress occupations in the organization surveyed, had a significantly higher incidence of physical disorders than did respondents from the management group, which was a low stress occupation. Moreover, the predominant disorders were different for the two stressed groups. Operations personnel had a high prevalence of medication use and allergy and respiratory problems, while staff personnel showed the highest incidence of cardiovascular and gastro-intestinal disorders.

Several studies addressed the relationship between work-place stressors and specific physiological measures. Sales (1970), found that objectively measured work overload led to greater increases in heart rate than work underload. When work load was measured subjectively, there was no significant difference in heart rate change between overload and underload conditions. O'Brien, Smith, Goldsmith, Fordham, & Fan (1979) observed the relationship of heart rate and oxygen consumption to activity among assembly line workers and nurses. For both groups, oxygen consumption increased with activity. However, although increases in heart rate could be accounted for by the increased activity among assembly workers, the same relationship was not found among nurses. Frankenhaueser and Gardell (1976), in their study of sawmill workers, found that increased catecholamine production was associated with machine-paced work that was characterized by short work cycle and restricted posture.

Illustrative of studies exploring the relationship between social support and physiological stress are those of Gore (1978) and Billings and Moos (1982). Gore (1978), in her longitudinal study of the effects of a plant's closing, found that cholesterol levels and physical symptoms were significantly higher among subjects who did not receive social support, although these strains were not significantly related to a sense of economic depression. Billings and Moos (1982) found that, among the male subjects in their study, physical symptoms were directly related to low autonomy, control, and a composite work stressor measure, and were inversely related to involvement, cohesion, supervisor support, and a composite resources (social support) measure. For females in the study, physical symptoms were predicted only by low autonomy, with all social support variables unrelated to physical symptoms. Researchers have also found physical symptoms related to other forms of strain. Caplan and Jones (1975) found that anxiety and heart rate were positively related, and Cherry (1978) found that

while only 16.6% of subjects with moderate work-related strain reported physical symptoms, 49.1% of those with high work-related strain reported physical symptoms.

Several studies relate work-place stressors to general measures of physical disorder. Rousseau (1978a), in a study cited more fully in the discussion of task characteristics, found that physical stress was positively related to role conflict, and negatively related to autonomy, feedback, variety, and learning, but not to task identity or task significance. Margolis and Kroes (1974), in their interviews with 1496 workers over the age of 16, found that overall job stress, under-utilization of skills, resource inadequacy, insecurity, and non-participation were associated with decrements in physical health, but overload and ambiguity were not. Similarly, Gavin and Axelrod (1977) found that among management personnel in an underground mine, underutilization of skills and lack of job security were related to an increase in psychosomatic complaints, although role conflict, role ambiguity, and overload were not. Coburn (1975) found that, although moderately complex jobs were related to improved health, jobs high or low in complexity were related to poor health.

House et al. (1979) found that, among hourly, non-managerial workers in a tire and rubber manufacturing company, 18 of 25 correlations between stressors (responsibility pressure, role conflict, work load, quality concern, and job vs. non-job conflict) and physical symptoms (angina, ulcers, neurosis, itch and rash, and cough and phlegm) were significant, and as the authors stated, not trivially so. Each symptom was predicted by at least two stressors, and each stressor predicted at least three symptoms. House et al. (1979) concluded that "the pervasive impact of stress across all self-reported health outcomes is consistent with the hypothesis that stress increases the susceptibility of blue collar workers to a wide range of health problems and diseases" (p. 147). The authors further note

that there are some specificities among the stress-strain relationships, in that only certain stressors affect ulcers and angina: ulcers seem to be related to stressors that suggest interpersonal conflict and angina to stressors that indicate task orientation.

Thus, there is convincing evidence that work-place stressors are related to physiological conditions, although the evidence on specific stressor-strain relationships is somewhat confusing. For example, work load was a predictor of physical symptoms in the Sales (1970) and House et al. (1979) studies, but not in the Gavin and Axelrod (1977) or Margolis and Kroes (1974) studies. Similarly, the effect of social support on physical symptoms is confusing (Billings & Moos, 1982; Gore 1978).

No studies were found that dealt specifically with the effect of client characteristics on physical symptoms. However, if client characteristics are conceptualized as interpersonal events (Jermier, 1982), and assuming some validity in the conclusion of House (1981) that interpersonal tensions affect health, and of Cassel (1976) that feedback is related to disease susceptibility, it seems reasonable to expect a relationship between client characteristics and physical symptoms of helpers.

$H5_a$: Positive evaluation of client characteristics is negatively and significantly related to self-reported physical symptoms.

$H5_b$: Client likeability is negatively and significantly related to self-reported gastrointestinal problems.

$H5_c$: Client treatability is negatively and significantly related to self-reported cardiac symptoms.

Absence

Conceptualization. The inclusion of absenteeism as a behavioral strain in a number of the stress models (Beehr & Newman, 1978; Brief et al. 1981; Ivancevich & Matteson, 1980; Schuler, 1980) with virtually no conceptual or empirical rationale given for its inclusion reflects the assumption that seems to underlie the absence literature: that absenteeism is a "hard" criterion variable (Johns, 1978) or "clear-cut act" (Porter & Steers, 1973), with obvious definition and importance. Muchinsky (1977), however, contended "that 'absenteeism' is a particularly ambiguous concept and this ambiguity has clouded the exact meaning of many studies that investigated the relationship between absenteeism and other variables" (p. 317). Critical to clarification of the ambiguity is specification of the motivation for studying absenteeism. Typically, researchers and reviewers have seemed to be interested in absenteeism because it has been assumed to be costly to organizations (Steers & Rhodes, 1978), implying a need for managerial control and leading to inclusion of suggestions of absence reduction in research reports and reviews (Muchinsky, 1977; Nicholson & Goodge, 1976). An alternative approach is to consider absenteeism a quality of work life issue, "which requires that the gap between behavioral scientists' accounts of absence as a social problem and its experiential reality to the worker . . . be closed" (Johns & Nicholson, 1982, p. 128).

Although absence has been conceptualized as withdrawal (Beehr & Gupta, 1978; Muchinsky, 1977) or flight (Ivancevich & Matteson, 1980), it may also be true that absence from work sometimes represents a positive choice to be elsewhere; for example, to fulfill family obligations (Johns & Nicholson, 1982) or pursue leisure activities. Absence in response to stress may represent withdrawal because the extent of the stress has become unbearable or coping

behavior designed to minimize current costs of stress and increase the worker's future capacity for dealing with stress (Maslach & Jackson, 1982).

Despite the fact that previous research has identified a number of correlates of absence, including both organizational and personal characteristics, the amount of explained variance has been relatively small and unstable (Johns & Nicholson, 1982) and the classes of correlates, although conceptually independent, have been statistically redundant (Johns, 1978), suggesting that important correlates of absence may have been overlooked. Exploration of the meaning of absence from work to the stressed and absent worker may help identify additional correlates.

Empirical Evidence. Most of the studies that include absenteeism as a dependent variable examine how it is related to organizationally related factors, such as task or role characteristics or features of the work context; to personal characteristics; or to some combination or interaction of organization and person. Several of the studies reviewed examined the effects of organizational stressors on absence.

Ivancevich (1974), in his experimental study of the effect of a change to four-day work week on absence among operating and managerial personnel, found no relationship between the change and patterns of absence. Parkes (1982), in the experimental study cited above of the effect of patient type, patient sex and period of assignment on attitudes and behavior of 164 student nurses, found that none of the independent variables predicted absence behavior. Although these relatively objective characteristics of the work context did not predict absenteeism, Hackman and Oldham (1976) reported, as had Hackman and Lawler (1971), that the subjective perception of task characteristics was negatively and significantly related to absenteeism for 658 subjects from 62 occupations.

Spencer and Steers (1980), in a study of 200 hospital clerical and service workers, compared the influence of work experiences and personal characteristics on absenteeism, which was measured as the total number of days absent in a nine-month period. Because work experiences (group attitudes, met expectations, job challenge, personal importance, and organizational dependability) were highly correlated (median r=.57), partial correlation coefficients were used in the analysis. Results indicated that personal characteristics related significantly to absenteeism were tenure in the organization (directly), tenure in position and age (inversely), and sex (females absent less often than males), and that the only work environment factor related to absenteeism was job challenge (negatively). The model explained 18% of the variance in absenteeism. Mowday and Spencer (1981) found that a single motivating potential score measure of task characteristics was negatively related to absenteeism, measured as total number of incidents of absence in a one-year period. The task measure interacted with a personal measure to influence absenteeism such that high need for autonomy and high job scope were associated with decreased absence, and low need for achievement and high job scope were associated with increased absence.

Watson (1981) compared the effects of job satisfaction, job situation and personal characteristics on absence, and found that the model explaining the most variance included job situation and personal characteristics. Watson (1981) also found that the full model explained 47% of the variance for females but only 18% for males, with marital status and tenure as the significant predictors. Nicholson and Goodge (1976) found that various types of absence (sickness absence, unsanctioned absence, holiday absence, and casual absence) were differentially predicted among the 343 female workers in their sample. For example, workers in more enriched jobs had less casual and unsanctioned absence, but had no

significant difference in sickness absences from those in unenriched jobs. In addition, they found that younger workers and those with longer tenure have higher levels of casual holiday and unsanctioned absence than older workers or those with less tenure, respectively. Johns (1978) tested the effects of four sets of predictors (job satisfaction, personal characteristics of workers, leadership style, and job content) on the frequency of absence incidents among 208 workers (24% female) in a manufacturing organization. Using stepwise regression, he found that age, sex, task identity, consideration, and feedback were significant predictors, explaining 9.4% of the variance, but further analysis revealed that the identity effect was an artifact of sex. Johns concluded that there is a great deal of redundancy in the effects of conceptually independent predictors on absence.

The review of studies that explored both work-related factors and personal characteristics as possibles correlates of absence behavior reveals that subjectively-measured characteristics of the task itself, and age, tenure, and sex of worker, consistently contribute to prediction of absence behavior.

Several studies examined the effects of known stressors on absence. Karasek et al. (1982) found that, among Swedish workers, task strain (measured as the job demand-job decision latitude relationship) was positively and significantly related to absence. Coburn (1975) found that individuals in conditions of role overload had the highest absence rates in his sample of 1143 males. Margolis and Kroes (1974) reported that underutilization of skills, role overload, resource inadequacy, and non-participation, but not role ambiguity, were positively and significantly related to absence.

Three studies related burnout to absenteeism. Cherniss (1980) found that increased burnout was associated with increased absenteeism among new professionals. Maslach and Jackson (1981), in their study of the measurement

of burnout, found that absenteeism was positively related to depersonalization. Maslach (1982) reported that "absenteeism is more prevalent with burnout, and some staff people routinely take their maximum sick leave" (p. 80).

Although the studies cited above seem to indicate that there is a relationship between some stressors and absence, the relationship between client characteristics and absence is expected to be complex. The Parkes (1982) study found no relationship between patient sex and absenteeism of nurses. Hay and Oken (1972) stated that "group loyalty reinforces work pressure in stimulating guilt about any absence" (p. 127). Maslach and Jackson (1982) suggested that one way of coping with the emotional exhaustion and depersonalization of burnout (and so, presumably, with the stresses that produce them), is by getting away, with absence being one way of withdrawing.

$H6_a$: Positive evaluation of client characteristics is negatively and significantly related to absence frequency.

$H6_b$: Manageability and likeability are better predictors than treatability of absence frequency.

Intervening Variables

Lazarus (1966) has called upon stress researchers to identify and analyze the mechanisms and conditions that link antecedents of stress and stress reactions. While a number of the stress models mentioned above specify conditioning or moderating variables, specification of intervening variables that may explain and/or elaborate the relationships of stressor to strain is seldom observed in either the conceptual or theoretical literature. Inclusion of intervening variables in research models permits identification of both direct and indirect effects of

stressor on strain. For these reasons, the study specifies two constructs through which client characteristics are expected to influence burnout: technology and task characteristics.

Gillespie and Mileti (1977) observed that studies of technology typically take one of two approaches: detailing the effect of technology on the attitudes or behavior of individuals, or examining its effect on organizational structure. They further suggested that the technology construct may reasonably be considered a dependent variable, subject to the nature of demands made by some components of the organization's environment, and that "the conditions that define its status in lines of causality need to be spelled out and empirically validated" (p. 14).

Figure 2-4 suggests that technology is a dependent variable relative to client characteristics. Clients are the raw material of people-changing organizations. Perrow (1965) stated that technology is influenced by the cultural definitions of this human material that hospitals attempt to alter. Lefton and Rosengren (1974) observed that many client characteristics considered relevant could have an impact on the functioning of organizations and the "organization must select and define those client characteristics which are salient for their purposes" (p. 474). Similarly, Hasenfeld (1974) has concluded that client characteristics are critical to the organization's definition of its technology. While inclusion of technology in the model as a dependent variable relative to client characteristics is a departure from the usual approach to technology research, its inclusion as an independent variable relative to individual outcomes is more consistent with a typical treatment of the technology construct (Gilespie & Mileti, 1977). Frankenhaueser and Gardell's (1976) statement that "[t]here is a growing recognition of the risk that maladjustment--as manifested in alienation, emotional disturbances and psychosomatic disorders--may develop as side effects

of advancing technology" (p. 35) provides support for the expectation of a relationship between technology and burnout. Perrow (1965) observed that, because treatment and diagnostic facilities are now key resources of hospitals, they must be controlled by those who use them (the doctors). It appears reasonable that this manifestation of technology constitutes a stressor for nurses, who retain little control.

In addition to the direct effect on burnout, and indirect effects through technology, client characteristics may have indirect effects on burnout as a result of their effect on characteristics of tasks performed by individuals. Because technology and task characteristics are sometimes considered different labels for the same construct (for example, Miles, 1980a), specification of a task characteristics-burnout relationship requires delineation of the conceptual and empirical differences between the technology and task characteristics constructs, in addition to explicating the rationale for expecting that client characteristics are related to individual outcomes.

Although Pierce and Dunham (1978) demonstrated that the operationalization of technology and task characteristics does not discriminate between the two, they asserted that "organization structure, technology, and job design represent three distinct constructs" (p. 410). Technology defines the kind or nature of the work of an organization or unit, while job design refers to more micro-level features of the work, described by Van de Ven and Ferry (1980) as the "analytical properties of individuals' jobs or positions" (p. 206). A difference between the two constructs is implied by Griffin's (1982) assertion that technology can either constrain or facilitate job redesign. Empirical evidence suggests that task characteristics sometimes vary within technologies (for example, Abdel-Halim, 1981) and sometimes appear to differentiate among technologies (for example, Rousseau, 1977).

The relationship between job characteristics and individual outcomes has been often and explicitly treated in the organizational behavior literature. Job characteristics are viewed as important in the determination of quality of work life for organizational members (Griffin, 1981; Hackman & Suttles, 1977) and have been shown to be related to affective and behavioral outcomes (Emery & Trist, 1960; Hackman & Lawler, 1971; see Griffin, 1982, for review). More specifically relevant to the relationship of task characteristics to burnout is the work of Jermier (Gaines & Jermier, 1983; Jermier et al., 1983) which conceptualized physical danger, a manifestation of the client worker relationship, in interaction with departmental context, to emotional exhausion. Rousseau (1978b) interpreted the results of her study of the effect of departmental, positional, and individual characteristics on individual attitudes and behavior as evidences that "perceived job characteristics are critical links of organization-related characteristics . . . to individual response" (p. 535).

It appears, then, that client characteristics help define the context within which work is done, and thus affect workers' perceptions of their tasks, which in turn affect affective outcomes for the individual. In fact, Johns and Nicholson (1982) concluded that "subjective perceptions of job dimensions and work attitudes should be restored to their logical research roles as individual-level intervening variables, lying between the structure of work environments and worker behavior, rather than treated as intrapsychic independent variables without reference to their situational antecedents" (p. 131).

Technology

Concept and Definition. Woodward (1965) conceptualized technology in terms of the type of production process used by the organization (small batch or unit, mass, or process production), while Thompson (1967) based his typology

on "the manner in which individuals or work groups are arranged" (Griffin, 1982, p. 107). The three technological types identified by Thompson (1967) are long linked, mediating, and intensive. The Aston group (Hickson, Pugh & Pheysey, 1969), basing their typology on workflow integration, identified operations technology, materials technology, and knowledge technology as the categories useful for classifying the technology of an organization. While the Woodward (1965) and Thompson (1967) models suggest discrete and exclusive categories, the Aston group (1969) model suggests that organizations can be classified at any point along a continuum that represents the degree to which the dimension is descriptive of an organization's technology. Gillespie and Mileti (1977) have combined several of these dimensions in their definition of technology as the "types and patterns of activity, equipment and material, and knowledge or expertise, used to perform tasks" (p. 8).

Perrow's (1965, 1967) suggestion that technology could most usefully be conceptualized with reference to the raw material used by the organization or unit has provided an approach to the conceptualization of technology that has general applicability in organizational settings, and that has impacted much of the thinking and research on technology. Glisson (1978) observed that " i n human service organizations, which attempt to produce cognitive, affective or behavioral changes in clients, the state of knowledge is determined by the extent to which the raw material (human beings) is understood and the extent to which outcomes applied to change them can be predicted is extremely limited" (p. 383). Overton, Schneck and Hazlett (1977) found this approach to the conceptualization of technology useful for thinking about the technology of nursing, and concluded that "techniques for transforming the raw materials, that is changing the health states of patients, are the specific actions taken by nurses" (p. 205). It should be noted that "equipment is not included in the definition; equipment is a tool

of technology, but technology rests on knowledge of the raw material" (Perrow, 1965, p. 916). The amount and sophistication of technological equipment necessary to implement the technology are sometimes used as a surrogate measure of technology (Leatt & Schneck, 1981).

For purposes of this study, technology is defined as "a technique or complex of techniques employed to alter 'materials' (human or nonhuman, mental or physical) in an anticipated manner" (Perrow, 1965, p. 915).

Technology and Individual Outcomes: Empirical Evidence. Several studies were discovered that address the question of the relationship of technology to affective outcomes, or to stress specifically. Abdel-Hamin (1981), in a study which used Thompson's (1967) categories to measure technology, found a main effect of organization technology on satisfaction in addition to the effects of role conflict, role ambiguity, and role overload, respectively. In this sample of managers and staff personnel from a manufacturing organization (long linked technology) and managers and non-managers from a bank (mediating technology), subjects working in the bank experienced higher levels of satisfaction than those working in the manufacturing organization.

Two studies assessed the relationship of technology to mental health. Gardell (1976) reported that among 640 mass production workers and 414 process production workers in Sweden, individuals doing machine-controlled, repetitive work had lower mental health than craftsmen or individuals operating more complicated mechnical systems. Kornhauser (1965), in his study of 655 male factory workers, found that mental health was poorer for subjects doing machine-paced work than for those doing repetitive work, and poorer for those doing repetitive work than for those in skilled jobs. Mental health was operationalized by Kornhauser (1965) as the sum of scores on indices of anxiety, self-esteem, hostility, sociability, life satisfaction, and personal morale.

In a study of 271 (65% female) employees, representing a total of 19 departments of an electronics firm and a radio firm, Rousseau (1978a) found that technology, operationalized as mechanization, was negatively and significantly related to psychological and physical stress and to absence. However, when technology was measured using the Thompson (1967) typology, mediating technology was negatively and significantly related only to absence and psychological stress, while long-linked technology was positively and significantly related only to absence.

Several studies have dealt with the effect of technology on individual outcomes among nurses. Sheridan and Vredenburgh (1978) found that technology (labeled task structure in their study and measured using Lynch's 1974 scale) was not significantly related to job tension among 216 nurses in a metropolitan hospital. Gentry et al. (1972) administered standardized self-report instruments to 34 nurses, and compared results based on ICU/non-ICU assignments. ICU nurses, compared to non-ICU nurses, reported greater depression, hostility, and anxiety. In their descriptive study of ICU nursing, Hay and Oken (1972) reported that ICU nurses found that the need to function in a situation that was both routine (due to the need for repetitive monitoring and data collection) and potentially urgent (due to the high probability of life-threatening incidents) contributed to the stressfulness of the work. Parkes (1982) found that type of unit (which may be considered a surrogate for technology) was a significant predictor of depression and work satisfaction among her sample of 164 student nurses. Her results suggest that nursing on medical wards compared to surgical wards produces more depression and less satisfaction for student nurses.

Leatt and Schneck (1980), in a study using data from 153 head nurses, from nine specialties and 25 hospitals, found that, while sources of stress were

the same across specialties, the frequency with which certain types of stress were experienced varied across specialties. Nurses working in medical, ICU, and auxilliary units reported the highest levels of stress associated with patient-based stressors. Similarly, Gray-Toft and Anderson (1981), in their study of 122 nurses on five patient care units, found that, while sources of stress were the same among nurses, the amount of stress experienced differed among units, with those on the medical unit experiencing the highest levels of stress.

Apparently only Maslach and Pines (1977) have examined the relationship of a technology-type variable to burnout. In their study of day care workers, they found that, although a less structured program was related to perceptions of better working conditions and more feelings of control over work, it was also related to increased experience of emotional exhaustion.

It appears, based on the studies reviewed, that more routine technology is generally associated with lower levels of stress among nurses. Such a conclusion is speculative, since in most studies technology is not measured directly but inferred from the surrogate measure of nursing subunit. The definition by Leatt and Schneck (1980) of a nursing subunit as "a geographic inpatient area of a hospital having a technological domain, an assigned number of beds, its own regular complement of nursing staff with shared goals, and a formal hierarchical structure" (p. 35) seems to support such an inference. In addition, Overton et al. (1977), Filley, House and Kerr (1976) and Leatt and Schneck (1981) found that their technology scale differentiated among subunits in their sample of 154 subunits in 24 hospitals. This relationship is tested directly in the study.

$H7_a$: Client treatability is positively and significantly related to routineness of technology.

$H7_b$: Routineness of technology is negatively and significantly related to burnout.

Task Characteristics

Concept and Definition. Historically, conceptualization of task design seems to have reflected the broader context within which work was accomplished. This interpretation is captured in the Filley et al. (1976) classification of task design approaches on dimensions of degree of specialization and historical period. Prior to the industrialization of work, tasks were generally of a craft nature, with little specialization. By early in the twentieth century, with the emphasis on separation of management and labor and imposition of efficiency as the primary criterion for work activity, most of the crafts-type of jobs, which had become increasingly specialized, gave way to jobs designed according to the principles of scientific management. During the period from the 1940's to the 1960's, largely in response to studies (Guest, 1957; Roethlisberger & Dickson, 1939) purporting to demonstrate that factors other than mechanical efficiency in the design of the task affected productivity, efforts were made to enlarge and rotate jobs. At about the same time, the Tavistock Institute group (Trist & Bamforth, 1951) recognized the importance to productivity and affective outcomes of the social arrangements of jobs.

More currently, with the addition of concern for quality of work life to concerns for productivity, increasing effort has been directed toward understanding the meaning of work to workers (for example, Work in America, 1973) and to exploring means that will enable workers to experience meaningfulness from work. Current issues relative to job design include consideration of whether the

critical variable is represented by the objective characteristics of the job (Schwab & Cummings, 1976) or by the perceived job characteristics (Hackman & Oldham, 1976) and the means by which perceptions of task are developed (O'Reilly, Parlette, & Bloom, 1980; Salancik & Pfeffer, 1978). The early work of Hackman (Hackman & Lawler, 1971) and the more recent study by Jermier et al. (1983) indicate a considerable degree of congruence between objective and perceived task characteristics.

Assuming with Rousseau (1977) " t hat there exists a set of job dimensions which affect the level of employee performance and attitudes toward work" and that it is the employee's perception of these dimensions that affects burnout, the job characteristics theory of job design developed by Hackman and Oldham (1975; 1976) is utilized. Hackman and Oldham suggested, and demonstrated empirically, that the characteristics of the work affect the intervening motivating states of experienced meaningfulness of work, experienced responsibility for outcomes of the work, and knowledge of the actual results of the activities. In turn, these psychological states favorably affect personal and work outcomes including internal work motivation, quality of work performance, satisfaction with the work, and absenteeism and turnover. Task variety, task significance, task identity, autonomy, and feedback have been identified through a series of empirical studies (Hackman & Lawler, 1971; Hackman & Oldham 1975; 1976; Turner & Lawrence, 1965) as dimensions of task design, although the stability of the dimensionality of task characteristics is questionable (Dunham, Aldag, & Brief, 1977). Aldag et al. (1981) have suggested that there may be additional sample-specific or general dimensions useful for defining the characteristics of tasks. Pioneering work in the study of burnout (Cherniss, 1980; Freudenberger, 1975;

Maslach & Pines, 1977) suggests that this may be so among helping professionals. In particular, Maslach's (1978) discussion of the role of the client in burnout suggests that client characteristics may represent such a dimension, and/or may affect workers' perceptions of task characteristics relative to other dimensions.

Task characteristics refer to workers' evaluative perceptions of activities and interactions that comprise their jobs.

Task Characteristics and Individual Outcomes: Empirical Evidence. Pierce and Dunham (1976), in their review of the job characteristics research, concluded that there is considerable evidence across studies to support the hypothesized job characteristics-satisfaction relationship. Results of several recent studies provide additional support for their conclusion. Hackman and Oldham (1976), in a study of 658 respondents from 62 occupations, found that all task characteristics were positively and significantly associated with internal motivation, general satisfaction and growth satisfaction. Abdel-Halim (1981) compared the effects of role and task (measured with the Job Diagnostic Survey) on satisfaction in an organization with mediating technology (a bank) and an organization with long-linked technology (a production firm). Satisfaction was regressed on role conflict and job complexity, role ambiguity and job complexity, and role overload and job complexity. In each case, job complexity had a main effect on satisfaction. In addition, there was a three-way interaction of role, task, and technology such that in long-linked organizations high role ambiguity and low task complexity were related to a lower degree of satisfaction and in mediating technologies high role ambiguity and high job compleixty were related to a lower degree of satisfaction. Griffin (1981) reported that in a longitudinal study of a non-unionized manufacturing plant, job characteristics were positively and significantly related to satisfaction both at the time of initial data collection and in the

follow-up study conducted three months later. A number of studies have explored the relationship of task characteristics to other affective outcomes. French et al. (1975) found that job complexity, assessed in terms of Hackman and Oldham's conceptualization, was negatively and significantly related to boredom. Aldag and Brief (1975) found, in a sample of 104 employees of a division of correction, that 33 of 40 correlations between core job dimensions and affective outcomes were positive and significant. Outcomes measured included satisfaction, work involvement and internal motivation. In a study of employees whose work was directly related to the production process in 19 units of 13 organizations, Rousseau (1977) found that all task characteristics were negatively and significantly related to alienation, and positively and significantly related to involvement and satisfaction. Karasek (1979) found that decision latitude, which is similar to the autonomy construct of the job characteristics theory, was negatively and significantly related to depression and exhaustion in a survey of Swedish workers. In an extension of the task design approach, Karasek (1979) also found an interactive effect of job decision latitude and job demand on depression. Only one study was located that examines the relationship of task characteristics to burnout. Jermier et al. (1983) found, in a sample of 169 employees of a police department, that a composite measure of task characteristics was negatively and significantly related to emotional exhaustion, one dimension of the burnout construct. Pines and Kafry (1978) found that task variety, task significance, and autonomy were not significantly related to tedium among social workers, but that feedback was negatively and significantly related to tedium, a construct similar to burnout, among 129 (predominantly female) social workers. Caseload was related positively and significantly related to tedium.

It appears, then, that the relationship of perceived task characteristics to affective outcomes has empirical support, although only one of the studies cited above deals directly with burnout as a dependent variable. Several studies appear to offer support for the relationships among variables suggested by this study. Figure 2.4 indicates that a stressor (client characteristics) affects a strain (burnout) both directly and through an intervening variable, task characteristics. When Beehr (1976), in a study designed to explore situational moderators of the role stress-role strain relationship, collected data from 651 workers (51% male) employed in five midwestern work organizations, he found that autonomy was correlated significantly and negatively with role ambiguity (a stressor) and significantly and negatively correlated with job dissatisfaction, life dissatisfaction, low self-esteem, and depressed mood (strains). In addition, autonomy was the only one of the three situational variables tested that moderated the role ambiguity-strain relationships.

Jermier et al. (1983) found that among the 171 employees of a police department, perceived physical danger, which may be conceptualized as a stressor and/or as a task characteristic, predicts emotional exhaustion, and, inversely, commitment and pay satisfaction (strains). Although physical danger was not significantly related to motivating potential score (a composite measure of task characteristics), the positive correlation approached significance. Task motivating potential predicted intrinsic satisfaction, pay satisfaction, commitment, and, inversely, emotional exhaustion. Rousseau (1978a) tested a model similar to that proposed for this study. In a study of 271 workers from 19 departments in two organizations, she investigated the direct effects of department characteristics on affective and behavioral outcomes, and examined task characteristics as a possible mediating variable through which the independent variables would have indirect effects on the outcomes. She found that measures

of structure were positively related to psychological stress and that measures of technological mechanization were negatively related to stress. Autonomy and feedback from agents and from the job were negatively and significantly related to psychological stress. In addition, 62% of the common variance between departmental characteristics and individual affective and behavioral responses was accounted for by task characteristics, indicating support for the mediating role of that variable. Maslach and Jackson (1981) found that among 605 people from a variety of health and service occupations (44 percent female), feedback was significantly correlated with all dimensions of burnout: inversely with emotional exhaustion and depersonalization, and positively with personal accomplishment. Maslach and Jackson (1982) found knowledge of results and feedback inversely related to emotional exhaustion and depersonalization among nurses.

The Pines and Kafry (1978), Jermier et al. (1983), Rousseau (1978a), Maslach (1981), and Maslach and Jackson (1982) studies appear to provide support for expecting indirect effects of client characteristics on burnout through the intervening variable, task characteristics.

$H8_a$: Client manageability is positively and significantly related to task characteristics.

$H8_b$: Client treatability is positively and significantly related to task characteristics.

$H8_c$: Task characteristics are negatively and significantly related to burnout.

# CHAPTER III

# METHOD

## Research Questions and Hypotheses

The study has systematically explored the relationship of a particular job stressor, client characteristics, to a specific strain, burnout, by examining the direct relationship of client characteristics to burnout, the relative effects of client characteristics and other stressors (workload and social support) on burnout, the differential predictive value of client characteristics for burnout and other strains (anxiety, physical symptoms, absence), and the indirect effects of client characteristics on burnout through intervening variables (technology and task characteristics).

Research questions specified were:

1. What is the relationship of client characteristics to burnout?
2. What are the comparative effects of client characteristics and other stressors on burnout?
3. Do client characteristics predict burnout and other strains differentially?
4. What is the mechanism through which client characteristics affect burnout?

Daft (1983) emphasized the importance of recognizing that, if research results are to contribute to new knowledge, uncertainty must be built into research

designs. He suggested that "one should start with incomplete facts, with ambiguity, and plan experiments on the basis of probability, even a bare hunch, rather than certainty. Then look for surprise" (p. 540). Because there has been little attention to the effects of client characteristics on service deliverers, there was considerable uncertainty relative to the answers to the research questions posed above, and thus the potential for a great deal of surprise. However, on the basis of the review of relevant literature and some bare hunches, the following hypotheses were proposed.

$H_{1a}$: The underlying dimensions of relevant client characteristics are manageability, treatability, and likeability.

$H_{1b}$: Positive evaluation of client characteristics is negatively and significantly related to burnout.

$H_{2a}$: Work overload is positively and significantly related to burnout.

$H_{2b}$: When client characteristics are positively evaluated, work load is unrelated to burnout.

$H_{3a}$: Social support is negatively and significantly related to burnout.

$H_{3b}$: When client characteristics are positively evaluated, social support is unrelated to burnout.

$H_{4a}$: Anxiety and burnout are negatively and significantly correlated.

$H_{4b}$: Positive evaluation of client characteristics is negatively and significantly related to anxiety.

$H_{4c}$: Client manageability and client treatability are better predictors than likeability of anxiety.

$H_{5a}$: Positive evaluation of client characteristics is negatively and significantly related to self-reported physical symptoms.

$H_{5b}$: Client likeability is negatively and significantly related to gastrointestinal symptoms.

$H_{5c}$: Client treatability is negatively and significantly related to self-reported cardiac symptoms.

$H_{6a}$: Positive evaluation of client characteristics is negatively and significantly related to absence frequency.

$H_{6b}$: Client manageability and client likeability are better predictors than treatability of absence frequency.

$H_{7a}$: Client treatability is positively and significantly related to routineness of technology.

$H_{7b}$: Routineness of technology is negatively and significantly related to burnout.

$H_{8a}$: Client manageability is positively and significantly related to task characteristics.

$H_{8b}$: Client treatability is positively and significantly related to task characteristics.

$H_{8c}$: Task characteristics are negatively and significantly related to burnout.

## Research Design

### Research Strategy

The study was designed to respond to methodological issues identified above, as well as to substantive issues in stress research. Because the substantive issue of central concern was the prediction and occurrence of burnout among helping professionals, particularly in relation to characteristics of their clients, it was considered important to investigate the phenomenon in relation to particular work situations. The hypotheses were tested using a cross-sectional field study. Although the cross-sectional design does not permit definitive conclusions regarding cause-effect relationships, previous studies (i.e. Gore, 1978; Karasek, 1979; Parkes, 1982) using longitudinal designs confirm the suggestion that job dimensions lead to stress among workers.

In further response to methodological concerns regarding stress research, variables included in the analyses have been clearly identified as representative of various components of the stress model. Anticipated relationships were specified in advance and staged analysis was used to separate direct and indirect effects of predictor variables on outcomes. In addition, multiple regression analyses were used to study simultaneously the effects of several factors on dependent variables of interest. This analytic technique also permitted statistically controlling for factors which might confound results but which cannot be controlled for by randomization in a field-study design.

### Independent Variables

Independent variables used as control variables in analysis of data included age, tenure in the organization, tenure on the unit, education of subject and unit. Variables investigated as predictors of strain were client characteristics, work load, and social support.

Dependent Variables

Dependent variables of interest to the study included burnout, anxiety, absence, and physical symptoms.

Intervening Variables

Intervening variables explored in the study were unit-level technology and task characteristics.

The Sample

Determination of the staff size needed to produce a sample size which would permit the desired analyses required examination of the number of subjects required for the proposed analyses and an estimate of the response rate that might be expected.

Kerlinger and Pedhazur (1973) have suggested that "[a]ny multiple regression analysis, and especially those with many independent variables, should have at least 100 subjects. . ." (p. 446). A commonly used rule-of-thumb regarding the number of cases necessary for multiple regression analysis, the primary statistical technique used in the study, is that for each independent variable in a study there should be ten subjects. In order to meet this rule-of-thumb requirement, the present study required 80 or more subjects. Cohen and Cohen (1975) suggested that determination of an appropriate number for a study requires making judgments regarding the relative costs and benefits of being able to determine the presence of effects of a designated magnitude. More specifically, they suggested that, in a study involving five to fifteen independent variables, researchers establish a sample size which would enable detection of an effect of "medium" magnitude, or $R = .30$, and that the desired power of a test be set at .80. Application of these conventions suggested by Cohen and Cohen (1975) indicated that the present study required a sample size of 109.

Babbie (1973) reported that there is great variety of response rates in survey research. Although Kerlinger (1966) reported that response rates on mail surveys of 50 to 60% are among the best to be expected, he urged researchers to make every effort to achieve response rates of 80 to 90%. Babbie (1973), however, suggested that a response rate of "50% is adequate for analysis and reporting. A response rate of at least 60% is good. And a response rate of 70% is very good" (p. 165). Consequently it was concluded that the present study required a minimum of 80 respondents and that a staff of at least 170 nurses would be required to maximize the probability that the minimum number of responses would be received. Therefore questionnaires were mailed (see details below) to the entire 200 member RN and LPN nursing staff of a hospital for children.

Located in a southeastern state, the 113-bed hospital, which employs 513 persons, offers extensive general and specialized services to local residents, and is one of the eight centers in its state designated to treat premature or congenitally ill babies. In addition, cardiac surgery services are provided for adult patients. Of the 200 questionnaires mailed, six were returned to sender as undeliverable due to improper addresses, and 106 were returned by nurses, representing a 55% return rate. Of those returned, seven were not usable due to extensive missing data. The report of results of analysis includes specific information regarding treatment of other missing data.

Ninety-nine percent of the respondents were female (Table 3-1). 45.3% were between 21 and 30 years old, 39.6% were 31 to 40 years of age, 9.4% were 41 to 50 years of age, and 4.7% were 51 to 60 years of age. 2.9% of the respondents had been in nursing less than one year, 53.4% for one to ten years, 28.6% for 10 to 19 years, and 15.2% for over 19 years. The highest nursing education level attained by respondents was LPN, 6.6%; (Table 3-2) diploma,

TABLE 3-1
Demographic Characteristics of Respondents

| Characteristics | Percent |
|---|---|
| Age | |
| 20-25 years | 15.1 |
| 26-30 years | 30.2 |
| 31-35 years | 23.6 |
| 36-40 years | 16.0 |
| 41-45 years | 6.6 |
| 46-50 years | 2.8 |
| 51-55 years | 2.8 |
| 56-60 years | 1.9 |
| Sex | |
| Male | 1 |
| Female | 99 |

TABLE 3-1--continued

| Characteristics | Percent |
|---|---|
| Education | |
| LPN | 6.9 |
| Diploma | 29.2 |
| Associate | 32.1 |
| Baccalaureate | 22.6 |
| Masters | 9.4 |
| Nursing Tenure | |
| Less than 1 year | 2.9 |
| 1-3 years | 8.6 |
| 4-6 years | 23.8 |
| 7-9 years | 21.0 |
| 10-13 years | 12.4 |
| 14-16 years | 8.6 |
| 17-19 years | 7.6 |
| 20-22 years | 3.8 |
| over 22 years | 11.4 |

TABLE 3-2
Job-Related Characteristics of Respondents

| Characteristics | Percent |
|---|---|
| Position | |
| Staff Nurse | 59.0 |
| Charge Nurse | 11.4 |
| Patient Care Coordinator | 4.8 |
| Other | 24.8 |
| Unit Tenure | |
| less than 6 months | 6.7 |
| 6 months to 1 year | 11.4 |
| 1-3 years | 32.4 |
| 3-5 years | 27.6 |
| 5-10 years | 15.2 |
| over 10 years | 6.7 |

TABLE 3-2 -- continued

| Characteristics | Percent |
|---|---|
| Unit | |
| Medical Intensive Care | 8.5 |
| Surgical Intensive Care | 13.2 |
| Neo-natal | 34.0 |
| Surgical | 9.4 |
| Medical-Infectious | 7.5 |
| Medical-Chronic | 5.7 |
| Surgery | 2.8 |
| Other | 18.9 |
| Shift | |
| Days | 33.3 |
| Evenings | 20.0 |
| Nights | 14.3 |
| 12-hour days | 20.9 |
| 12-hour nights | 9.5 |
| Other | 2.9 |

29.2%; associate, 32.1%; baccalaureate, 22.6%; and masters, 9.4%. Among the respondents, 33.3% worked day shift, and 20.0% worked evening shift, 14.3% worked night shift, 20.9% worked a 12 hour day shift, 9.5% worked a 12 hour night shift, and 2.9% worked other shifts.

## Procedures

An administrative official of the hospital was approached by the researcher for the purpose of gaining an introduction to the nursing staff. The first contact with the nursing staff was with a nursing educator. The education staff was enthusiastic about participation in the project based on their anticipation of benefit to the hospital, and a plan was devised to have the researcher attend a meeting of the nurse managers of each unit to explain the research and arrange for distribution of questionnaires by the nurse managers on the day following the meeting. However, the nurse managers expressed reluctance about being the people who asked the staff nurses to "do extra work". Subsequently, a plan was devised to mail the questionnaires directly to the homes of the nurses. The process of developing a plan for distribution of the questionnaires resulted in added commitment to the research by the Director of Nursing.

Staff nurses were informed of the research and given some information about the researcher in a memo signed by the Director of Nursing (Appendix A) and enclosed in pay checks distributed the day before the surveys were mailed. Complete anonymity was promised, and nurses were told that, while participation was voluntary, they were encouraged to take the 45 to 60 minutes required to complete the questionnaire. Individual feedback to participants was promised.

Packets were mailed to all nurses at addresses supplied by the Department of Nursing. A letter from the researcher was enclosed (Appendix B) explaining

in brief outline the purpose of the research, recognizing that the time required represented a real investment for participants, encouraging the investment, and acknowledging that some items would seem repetitious but urging completion of the full survey. Participants were again guaranteed anonymity, assured that they would receive individual feedback, and told that results would not include mention of the hospital by name. A short sheet of instructions (Appendix C) was also included in the packet, indicating how selection of identification sequence should be made. Each participant was sent a stamped, pre-addressed envelope for return of the 50-page questionnaire.

Of the 200 questionnaires mailed, 194 were apparently delivered, and 106 were returned by the designated date. Time elapsed between mailing of the surveys and designated final date for return was 17 days. At the end of the second week, a follow-up letter (Appendix D) was sent, thanking participants and indicating that the researcher was making necessary preparations to provide individual feedback.

Feedback was provided to recipients in the form of copies of printouts of scores on dependent variables, along with an explanatory letter indicating in brief what the scales purport to measure, and mean scores for each scale. Since names were never provided with the data, feedback was by identification sequence number and was enclosed with pay checks.

Interviews were held individually with the head nurse of each unit, and with the Director of Nursing. Each administrator was asked to share her perception of stressors that were particularly salient for her unit, and each provided information regarding severity and variability of diagnoses and prognoses, incidences of emergency and/or death on the unit, average census, and type and amount of interaction with family and friends of patients.

Three raters independently completed the technological instrument with each individual unit as referent, and ranked units on manageability, treatability, and likeability of patients. In addition, data were secured from the Nursing Education and Director of Nursing offices relative to unit size, average census, and general demographic factors of the nursing population.

## Instruments

### Dependent Variables

Burnout. Burnout, defined by Maslach and Jackson (1981) as "a syndrome of emotional exhaustion and cynicism that occurs frequently among individuals who do 'people-work' of some kind" (p. 99), was measured by two instruments, the Maslach Burnout Inventory (MBI, Appendix E) developed by Maslach, and the Staff Burnout Scale for Health Professionals (SBSHP, Appendix F), developed by Jones (1980).

Development of original items for the MBI was based on interview and questionnaire data, as well as early exploratory research conducted by Maslach and her associates. The original 47-item form of the scale was tested with a sample of 605 professionals from a variety of fields. Factor analysis revealed that four factors accounted for over 75% of variance. The items that loaded on these four factors were used in a second administration of the scale, again to professionals including nurses, teachers, social workers, probation officers, counselors, mental health workers, and agency administrators. Factor analysis of the results of the second administration revealed a structure very similar to that which emerged in the first analysis. Subsequently, the results of the two administrations were combined (N=1025) for assessment of the psychometric properties of the instrument.

The MBI items are presented as statements about personal feelings and attitudes, with a job-related orientation. Subjects are asked to respond to each item on the basis of both frequency (how often?) and intensity (how strong?). Because research (Gaines & Jermier, 1983; Golembiewski & Munzenrider, 1981) has shown that frequency is the better predictor measure, only frequency was measured in this study. The three subscales (the fourth factor was eliminated due to high correlation with other subscales) of the current MBI attempt to assess three dimensions of burnout: depersonalization, described as an unfeeling and impersonal response to clients, measured by a five-item subscale; emotional exhaustion, described as being emotionally overextended and exhausted by work, measured by a nine-item subscale; and personal accomplishment, described as feelings of competence and successful achievement in one's work with people, measured by an eight-item subscale. Congruent validity for the scale was supported (Maslach & Jackson, 1981) by findings of significant correlations of subscale scores with behavioral manifestations of emotional exhaustion and depersonalization, and with physical fatigue. In addition, job characteristics, expected to be significantly related to subscale scores, were found to be so. Discriminant validity of the instrument was demonstrated by the significant but low correlation with general job satisfaction.

The SBSHP instrument is a 30-item scale, including 20 items designed to measure burnout and a ten-item lie scale designed to identify attempts by respondents to "look good," with responses based on a seven-item scale from "agree very much" to "disagree very much." Although the burnout subscale items were developed to measure the same dimensions of burnout as those measured by the MBI (Shinn, 1982), Jones (1980) has interpreted the relatively high item-with-total SPSHP score correlation (average = .71) as an indication that the

items measured an overall, encompassing construct rather than dimensions of a construct. Items in the SPSHP attempt to measure psychological, psychophysiological and behavioral components of strain, while the MBI attempts to assess only psychological aspects of strain. Jones (1980) offers, as evidence of validity of the SPSHP, data which demonstrate significant correlations between SBSHP scores and measures of job-related behavior and affect conceptually related to burnout, including absenteeism, employee theft and job satisfaction.

The two measures of burnout were used for this study to provide a comparision of the two measures in a single study, to make replication of the study in a non-health care setting possible, and to facilitate comparison of the results with other studies.

Anxiety. Anxiety is defined by Spielberger et al. (1977) as "a palpable but transitory emotional state or condition characterized by feelings of tension and apprehension and heightened autonomic nervous system activity" (p. 240). Research results suggest that anxiety is manifest as both a relatively stable personality trait (trait anxiety) representing a predisposition to perceive a wide variety of external stimuli as threatening, and as a transitory state (state anxiety) that fluctuates over time in intensity of feelings of tension and apprehension.

Both trait anxiety and state anxiety are measured by the State Trait Anxiety Inventory (STAI) developed by Spielberger and used in over 1900 studies of anxiety. The instrument has demonstrated both internal consistency (Cronbach alpha ranges have been .83 to .93) and the expected pattern of test-retest reliability. That is, trait anxiety test-retest correlations have ranged from .73 to .86, while state anxiety test-retest correlations have ranged from .16 to .54 (Spielberger et al., 1970).

More recently, Spielberger, in collaboration with associates, has developed the State-Trait Personality Inventory (STPI, Appendix G) which contains six 10-item subscales: state anxiety, trait anxiety, state anger, trait anger, state curiosity and trait curiosity. Since correlation of STPI anxiety subscale scores (Spielberger, no date) with STAI scores for samples of college students and Navy recruits all exceed .93, it appears that the STPI provides a valid and reliable measure of state anxiety and of trait anxiety. In addition, it is felt that the inclusion of the curiosity subscales in the cumulative questionnaire developed for this study helped provide balance for the overall instrument. Addition of the anger subscales provided opportunity to examine a possible relationship sometimes speculated (Maslach & Jackson, 1982) to exist between anger and the depersonalization subscale of burnout. Consequently, the STPI was used to measure the dependent variable anxiety for this study.

Absence. Measurement of absence introduces two methodological issues: means of data collection (self-report or archives) and type of data to be collected (frequency of absence or amount of time lost from work). Although use of archival data increases design strength by reducing the possibility of common method variance, and has been considered a more valid measure of absence behavior by some researchers (for example, Gupta & Beehr, 1979), others (Hammer & Landau, 1981) have pointed out that the inconsistencies in classification of absences as voluntary (usually considered a measure of absence frequency) or involuntary (usually considered a measure of time lost) introduces potential for criterion contamination. In addition, use of archival data precludes maintenance of subject anonymity. Therefore, a self-report measure of absence behavior was used in this study.

Two types of data are commonly used in studies of absence behavior: frequency of absence and time lost. Muchinsky (1977) reviewed studies that had examined the reliability of absence measures used in previous research, and reported that "the reliability of the frequency index appeared to be the highest and the most consistent across studies" (p. 318). Hammer and Landau (1981) found that a frequency of absence measure is more stable over time than a time-lost measure. Therefore, a frequency of absence measure, which requested that subjects indicate the number of absences in the last three months and the reasons for absence, was used in the study (Appendix H).

Physical Symptoms. Symptoms of possible physiological disorder were measured by a 41-item instrument (Appendix I) adapted by Gaines (in process) from items included in studies by Caplan et al. (1975), Moos, Cronkite, Billings and Finney (1982), and Quinn and Shepard (1974). The items include all body systems.

Intervening Variable

Task Characteristics. A 14-item subscale of Hackman and Oldham's (1975, 1976) Job Diagnostic Survey (JDS, Appendix J) was used to measure task characteristics. The JDS, designed to test the authors' theory regarding the motivational properties of task design, progressed through several developmental stages in which the responses of over 1500 subjects from 15 organizations were used to modify the instrument. Although the present form of the instrument has been criticized because the dimensionality of the task characteristics measure is not stable from sample to sample (Aldag, Barr, & Brief, 1981), the total scale score is stable (Griffin, 1981), and has been shown to have internal consistency (for example, Jermier et al., 1983, coefficient alpha was .80).

Technology. Technology was measured using 20 items of a 21-item instrument (Appendix K) designed by Overton et al. (1977) to measure nursing

subunit technology, and refined by Leatt and Schneck (1981). The twenty-first item was inadvertently omitted from the questionnaire used for this study due to clerical and editing error. Although these researchers initially hypothesized that the underlying dimensions of the technology construct are raw material, technique and task interdependence, the dimensions that emerged as a result of factor analysis of responses by members of 71 nursing subunits to the original 35 items were uncertainty, instability, and variability. Support for this dimensionality was found in a replication study conducted in 157 hospital nursing subunits. The resulting instrument has three subscales: a nine-item uncertainty subscale, an eight-item instability subscale, and a three-item variability subscale. Concurrence of the factor structure of the original and replication studies is offered by Leatt and Schneck (1981) as evidence of construct validity. Convergent validity is demonstrated by the significant correlation of the instability subscale, but not the uncertainty and variability subscales, with an objective measure of technical and specialized equipment. Discriminant validity is demonstrated by the fact that type of subunit was reliably predicted by the technology measure in both the original and the replication studies.

Independent Variables

Client Characteristics. Although there appears to be no commonly accepted measure of client characteristics, Wills (1978), in his review of the literature reflecting ways in which helpers perceived clients, has identified three dimensions into which classifications fall: manageability, likeability, and treatability. It appears that dimensions or client-types suggested by other authors, including type of client problem (Maslach, 1978); ability of client, and physical danger (Cherniss, 1980); initiation, control, gain, and danger (Mennerick, 1974); and length of encounter and number of family and friends (Danet, 1981) are

provided for by Wills' dimensions. Consequently, items have been developed (Appendix L) to attempt to tap the dimensions of manageability, likeability, and treatability. In addition to the questionnaire items, data about patients were obtained through interviews with nurse-managers of each unit. Data obtained through interviews included information about average length of stay, prognosis, ratio of "code blue" to census, amount of interaction required with family and friends of the patient, frequency of physical or verbal abuse of nurses, and incidence of death. These data were used to examine convergent validity of the questionnaire and to develop a second index of client characteristics.

Work Load. Work load, defined by Sales (1970) as "a condition in which the focal person is faced with obligations which, when taken as a set, require him to do more than he is able to do in the time available" (p. 593), is measured by a five-item scale (Appendix M). Three of the items, reflecting how much the respondent is required to work very fast or very hard, or to exert much physical effort, were introduced by Quinn and Shepard (1974). A fourth item, measuring unexpected overtime, was added by House (1980). The four-item scale had a reliability coefficient of .73 in House's (1980) study of tire factory employees. A fifth item, inquiring about the effect of quantity of work on quality of work, was also used by House (1980).

Social Support. Social support, the belief or feeling that assistance, acceptance, and esteem are available from significant others, is measured by a 16-item instrument (Appendix N), including five-item scales for supervisor support, coworker support and family and friends support, and a one-item measure of general, or non-source-specific support. Four of the items in each source-specific scale were used by Caplan et al. (1975). These items were based on the previous work of Gore (1973), Pinneau (1976), Likert (1961), and Taylor and

Bowers (1972). Reliabilities reported by Caplan et al. (1975) for the scales were: coworker support, .73; supervisor support, .83; and family and friends support, .81. The fifth item in each scale was suggested by Gaines and Jermier (1983).

Age, education, unit, and unit tenure were measured categorically by single items on the questionnaire.

## Analysis

### Unit and Level of Analysis

Glick (1980) specified that "unit of analysis . . . be used to indicate the research focus as determined by the dependent variables of interest" while level of analysis should be used to refer to "the size and type of unit associated with a particular measured variable (or) theoretical construct" (p. 19). In the present study, the unit of analysis is the individual, and the level of analysis for all variables except technology is also the individual. The level of analysis for technology is the work unit.

Measurement of technology at the level of the work unit requires addressing the issue of aggregation of data. Mossholder and Bedeian (1983) observed that "in most instances aggregate measures are represented in terms of the mean response of each aggregate unit" (p. 549). They also suggested that aggregate measures are, in themselves, neither good nor bad. Rousseau (1978b) asserted that the problem that Lynch (1974) had identified relative to determining the subjects from whom to gather data and the method for aggregating data to develop a measure of technology remains unanswered. In exploration of the issue, Rousseau (1978b) compared the value of three measures of technology for explaining variance in employee attitude, and found that a global measure had the least explanatory power, while individual assessment of job characteristics

had the most explanatory power. "Aggregation of job characteristics at the department level explained substantially less variance in employee attitude than individual-level job characteristics but did not alter the pattern of relationships" (p. 213). However, the job characteristics measure used the individual subject's job as referent. Following the rationale of this study, which distinguishes between technology, conceptualized as a relatively broad categorization of how raw material is transformed, and individual tasks, which may differ within categories, technology was measured using the work of a unit as referent, with aggregation of individual responses across each unit. For analytic purposes, each member of a unit was assigned the mean score for the unit.

Analytic Procedures

The client characteristics and physical symptoms scales were factor analyzed to determine whether the expected structures were supported by the data. Following indicated adjustments, reliabilities, means, standard deviations and correlations were derived and examined prior to hypothesis testing. The factor analysis also allowed for testing of hypothesis $H_{1a}$, and the correlational analysis allowed for testing of hypothesis $H_{4a}$.

In general, hypotheses were tested through a series of regression analyses. Because the literature strongly suggests that age, tenure in the organization, tenure on the unit, and education of subject are related to strain, statistical methods were used "to identity (and) nullify variance . . . that is presumably 'caused' by (these) independent variables that are extraneous to the relations under study" (Kerlinger & Pedhazur, 1973, p. 82, 83). Consequently, in each regression run, these variables were forced to enter the equation first as controls. A series of six regressions was run to examine the relative effects of client characteristics on the dependent variables. To test hypotheses $H_{1b}$,

$H_{4b}$, $H_{5a}$ and $H_{6a}$, burnout, anxiety, physical symptoms and absence frequency, respectively, were regressed on the control variables and client characteristics. Hypotheses $H_{4c}$ and $H_{6b}$ were tested by regressing anxiety and absence frequency, respectively, on the control variables and treatability, likeability, and manageability, with the latter three variables allowed to enter the equations freely. $H_{5b}$ was tested by regressing gastrointestinal symptoms on likeability. $H_{5c}$ could not be tested because the data did not produce a measure of cardiac symptoms.

To test the relationship of the other independent variables, work load and social support, to burnout (hypotheses $H_{2a}$ and $H_{3a}$), burnout was regressed on the control variables and work load and social support, respectively. To explore the relative effects of the independent variables on burnout, burnout was regressed on the control variables and client characteristics, work load and social support, with the latter three variables allowed to enter the equation freely.

Moderated regression analysis was used to test hypotheses $H_{2b}$ and $H_{3b}$. Burnout was regressed on the control variables, social support and work load respectively, client characteristics, and the interaction of client characteristics with social support and work load respectively.

Staged regression was used to test the hypothesized intervening variable relationships ($H_{7a}$, $H_{7b}$, $H_{8a}$, $H_{8b}$, $H_{8c}$). Technology was regressed on the control variables and client characteristics, and burnout was regressed on technology to test for indirect effect of client characteristics. The direct effect of client characteristics on burnout was derived by regressing burnout on the control variables and client characteristics. The same procedure was used to determine the indirect effects of client characteristics on burnout through task characteristics.

# CHAPTER IV

# RESULTS

Data analysis involved use of factor analysis to identify underlying dimensions of the client characteristics and physical symptoms scales. Means, standard deviations, possible and actual response ranges, and bivariate correlations were then calculated for all scales. After determining that all scales show adequate reliability, hypotheses were tested using bivariate correlation and multiple regression analyses.

## Factor Analyses

### Client Characteristics

The 37 items written to measure the manageability, treatability, and likeability dimensions of client characteristics were submitted to factor analysis (Table 4-1). The principal factoring with iterations routine yielded 13 factors. The most interpretable results were obtained using an orthogonal (varimax) rotation. A discontinuity in eigenvalues between the third and fourth factors, and a priori specification of a three-dimensional scale, were criteria used to select a three-factor interpretation. The three factors accounted for 52.8% of the variance in responses. All factors retained had a factor loading exceeding .49 with the exception of item 84, which loaded at .43 and was retained because of its compatibility with other items loading on the factor.

TABLE 4-1

Orthogonally-Derived Primary Factors of Client Characteristics Scale

| Item[a] | | Factor 1 | Factor 2 | Factor 3 |
|---|---|---|---|---|
| | Eigenvalue | 6.46 | 3.19 | 2.12 |
| | Variance Explained | 29% | 14.3% | 9.5% |
| V68 | Appreciate efforts | .7323 | .2246 | .1146 |
| V69 | Cooperate/policies and procedures | .5962 | .3185 | -.0208 |
| V74 | Warm and friendly to nurses | .5335 | .4145 | -.0551 |
| V80 | Show appreciation | .7142 | .0166 | .1627 |
| V81 | Want to be well liked; devote effort | .7057 | -.0057 | .1641 |
| V90 | Behave as "good" patients | .5431 | .0809 | .1451 |
| V67 | Family and friends may harm nurse | .1816 | .7679 | .0737 |
| V70 | Difficult to look at | .0466 | .4909 | -.0226 |
| V72 | Make nurse wonder about competence | .0664 | .5351 | .1770 |
| V84 | Tend to blame hospital and nurse for problems | .0395 | .4334 | -.0165 |
| V89 | Would never do physical harm | -.0033 | .4918 | .2167 |
| V91 | Behave in ways that make nurse afraid | .1702 | .8106 | .0432 |
| V66 | Will probably improve | .0553 | -.0396 | .7675 |
| V71 | Have favorable prognosis | .1770 | .0752 | .7371 |
| V88 | Will probably recover | .1987 | .2437 | .8393 |

Note. $n = 99$.

[a]Items renumbered for clarity of interpretation.

The first factor contained items that reflect the degree of cooperation and responsiveness of patients to nurses. Although the a priori expectation was that item 81 would load as a treatability item and item 90 as a manageability item, examination revealed that the items are congruent with Wills' (1978) definition of the likeability dimension used by helpers to classify clients. Factor 1 was labeled client likeability.

Items which loaded on the second factor appear to deal with issues that are related to Wills' (1978) category of client manageability. In addition to the items dealing with physical danger are those that reflect the degree of threat to the helpers' sense of confidence and the extent of willingness to assume the client role. Factor 2 was labeled client manageability.

Items which loaded on the third factor all related to the probability that patients will recover, and clearly represent the treatability dimension identified in Wills' (1978) review of the client characteristics literature. Therefore, factor 3 was labeled client treatability.

### Physical Symptoms

The 30-item physical symptoms instrument was subjected to analysis (Table 4-2) using the principal factors with iterations routine and orthogonal (varimax) rotation. Factor 1 was a clear gastrointenstinal factor, and factor 2 appeared to reflect respiratory symptoms. However, the cardiovascular factor which had been hypothesized did not emerge as an interpretable factor in these data.

## Statistical Description of Scales

Means, standard deviations, and possible and actual response ranges are reported in Table 4-3.

Table 4-2
Orthogonally-Derived Primary Factors
of Physical Symptoms Scale

| Item[a] | | Eigenvalue | Factor 1<br>6.00 | Factor 2<br>2.02 | Factor 3<br>1.76 |
|---|---|---|---|---|---|
| | | Variance Explained | 39.2% | 13.2% | 11.5% |
| V291 | Becoming tired in a short time | | .6175 | .0803 | .0953 |
| V296 | Headaches | | .5933 | .0539 | .1105 |
| V310 | Pains in your stomach | | .7275 | .2075 | .2740 |
| V311 | Diarrhea | | .5834 | -.0767 | -.0074 |
| V312 | Indigestion or acid stomach | | .5562 | .0185 | .3452 |
| V313 | Nausea or vomiting | | .7831 | .1741 | .0517 |
| V298 | Difficulty swallowing | | .1705 | .5642 | .1755 |
| V302 | Shortness of breath | | .1262 | .6347 | .1120 |
| V303 | Heavy coughing | | -.0589 | .6448 | -.1277 |
| V304 | Tightness or heaviness in chest | | .0810 | .4905 | .2085 |
| V297 | Blurred vision | | .3772 | .3506 | .4017 |
| V299 | Dizziness | | .3633 | .2445 | .5028 |
| V306 | Pains in heart | | .0809 | .0351 | .7872 |

Note. n = 106

[a]Items renumbered for clarity of interpretation.

TABLE 4-3

Means, Standard Deviations, and Ranges
for Independent, Intervening, and Dependent Variables

| Variable | Mean | Standard Deviation | Possible Range | Actual Range |
|---|---|---|---|---|
| Independent Variables | | | | |
| Client characteristics | 78.66 | 11.27 | 15-105 | 23-105 |
| Likeability | 29.65 | 6.12 | 6-42 | 6-42 |
| Treatability | 15.17 | 3.35 | 3-21 | 3-21 |
| Manageability | 33.84 | 5.88 | 6-42 | 9-33 |
| Work load | 15.73 | 3.56 | 5-25 | 7-25 |
| Supervisor support | 12.77 | 4.09 | 4-20 | 4-20 |
| Coworker support | 14.58 | 3.12 | 4-20 | 4-20 |
| Family and friend support | 16.74 | 3.36 | 4-20 | 5-20 |
| Intervening Variables | | | | |
| Technology | 63.05 | 16.72 | 20-100 | 27-79 |
| Task characteristics | 107.91 | 15.00 | 21-147 | 38-140 |
| Dependent Variables | | | | |
| Burnout (MBI) | 40.61 | 16.13 | 0-132 | 5-89 |
| Burnout (SBSHP) | 49.93 | 12.88 | 20-120 | 28-79 |
| Anxiety | 25.48 | 4.50 | 10-40 | 18-36 |
| Physical Symptoms | 49.21 | 11.08 | 10-150 | 30-81 |
| Times absent | 1.18 | 1.03 | | 0-4 |

Note. $n = 99$

Means and Standard Deviations: Dependent Variables

Burnout: Maslach Burnout Inventory. The mean score (40.61, SD = 16.13) for this sample on the MBI was significantly lower ($p < .01$) than the mean score (66.08, SD = 25.87) found by Maslach and Jackson (1981) in their study of human service workers, including nurses. While scores did not differ significantly between the samples on the personal accomplishment scale of the MBI, the emotional exhaustion subscale mean score (20.56, SD = 9.97) for the present sample was significantly lower ($p < .01$) than the mean score (24.39; SD = 4) reported in the Maslach and Jackson (1981) study. The lower score also indicates some degree of range limitation on the scale.

Burnout Scale for Health Professionals. Jones (1980) reported preliminary norms on the SBSHP. For two heterogeneous samples of hospital-based nurses he reported scores of 52.9 (n = 36, SD = 23.9) and 57.5 (n = 38, SD = 17.5) respectively. The mean score (49.93, SD = 12.88) for the present sample did not differ significantly from the former, but was significantly less ($p < .01$) than the latter. As with the MBI scores, there is some range limitation.

Anxiety. Preliminary norms for employed females on the STPI indicated a mean score on the state anxiety scale (18.45, SD = 6.40) that was significantly lower than the mean score (25.48, SD = 4.50) for the present sample.

Physical Symptoms. The mean score for the physical symptoms scale was 49.21 (SD = 11.08). No comparative data are available.

Absence Frequency. The mean score of absence frequency for the sample was 1.18 (SD = 1.03). No comparative data for nurse are available.

Examination of possible versus actual range of scores on scales used to measure dependent variables revealed some degree of range restriction on both burnout scales and on the physical symptoms scale, with no scores ranging toward the high end of the scales.

Means and Standard Deviations: Independent and Intervening Variables

Client Characteristics. The factor-based client characteristics scale had a mean score of 78.66 (SD = 11.27) for the full scale. Subscale score for likeability was 29.65 (SD = 6.12); for manageability, 33.84 (SD = 5.88); and for treatability, 15.17 (SD = 3.35).

Social Support. Significant differences emerged between mean scores on each pair of support variables. The mean score (16.75, SD = 3.36) for family support was significantly higher ($p$ .01) than the mean score (14.59, SD = 3.12) for coworker support or the mean score (12.77, SD = 4.09) for supervisor support. Similarly, the mean score for coworker support is significantly higher ($p < .01$) than the score for supervisor support.

Comparison of possible with actual ranges on scales used to measure independent variables revealed that for all scales except manageability actual ranges are very congruent with possible ranges, indicating acceptable variability on predictor variables.

Intervening Variables. The mean score (63.05, SD = 16.72) for this sample on the technology scale was standardized (mean = 25, SD = 5) for comparison with results obtained by Leatt and Schneck (1981). The standardized score (18.86, SD = 5) was significantly lower ($p < .05$) than that reported in their study of 157 nurses in 24 hospital units. The lower score indicated more routineness of technology. The mean score (107.91, SD = 15.00) on task characteristics (JDS for the present sample was significantly lower ($p < .025$) than the score (113.6, SD = 53.79) reported by Jermier et al. (1983) in their study of an urban police force.

## Summary Descriptive Statistics

In summary, comparisons of mean scale scores for this sample with available normative data revealed that, in general, nurses in this sample reported

lower levels of burnout and fewer experiences of physical symptoms than were reported in samples used for comparative purposes, but higher levels of anxiety. The scales with significantly lower mean scores also displayed some degree of range restriction. In addition, respondents reported higher levels of family than coworker or supervisor support. Mean scores on both technology and task characteristics indicated that nurses in the sample perceived technology to be relatively routine and that the nature of the task is viewed significantly less favorably than is true of police in the comparative data.

## Bivariate Correlations

Bivariate correlations for scale scores used in testing of hypotheses are presented in Table 4-3.

### Dependent Variables

The MBI and SBSHP measures of burnout are the most highly correlated total scale scores in the study ($r = .69$, $p < .01$). In addition, both measures are significantly related to anxiety (MBI, $r = .52$, $p < .01$; SBSHP, $r = .55$, $p < .01$) and to physical symptoms (MBI, $r = .43$, $p < .01$; SBSHP, $r = .45$, $p < .01$), but not to absence behavior (MBI and SBSHP, $r = .10$, $p < .10$). These data suggest that burnout is related to psychological strain (anxiety) on the one hand, and to physiological strain (physical symptoms) on the other, but not to behavioral strain (absence frequency).

### Independent and Intervening Variables

Examination of bivariate correlations between independent variables revealed that among the 28 correlations none exceeded .29 except those that reflected the relationship of subscales of client characteristics to the total scale score. The relatively low correlations between pairs of subscales of the client

TABLE 4-4

Bivariate Correlations: Independent, Intervening, and Dependent Variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Client characteristics | 1.0 | | | | | | | | | | | | | | |
| 2. Likeability | .80 | 1.0 | | | | | | | | | | | | | |
| 3. Treatability | .57 | .29 | 1.0 | | | | | | | | | | | | |
| 4. Manageability | .76 | .32 | .23 | 1.0 | | | | | | | | | | | |
| 5. Work load | .10 | .12 | .01 | .08 | 1.0 | | | | | | | | | | |
| 6. Supervisor support | .28 | .24 | .25 | .14 | .16 | 1.0 | | | | | | | | | |
| 7. Coworker support | .14 | .10 | .08 | .13 | .21 | .25 | 1.0 | | | | | | | | |
| 8. Family and friend support | -.02 | .15 | .12 | .03 | .03 | .08 | .28 | 1.0 | | | | | | | |
| 9. Technology | .07 | .15 | .05 | .15 | .20 | .13 | .04 | -.07 | 1.0 | | | | | | |
| 10. Task characteristics | .56 | .46 | .22 | .47 | .27 | .45 | .25 | -.03 | .26 | 1.0 | | | | | |
| 11. Burnout (MBI) | -.33 | -.16 | -.27 | .31 | .34 | -.21 | -.13 | -.24 | .09 | -.37 | 1.0 | | | | |
| 12. Burnout (SBSHP) | -.02 | .06 | -.14 | -.03 | .37 | -.17 | -.07 | -.23 | .05 | -.19 | .69 | 1.0 | | | |
| 13. Anxiety | -.16 | -.10 | -.20 | -.10 | .26 | -.21 | -.18 | -.23 | -.19 | -.31 | .52 | .55 | 1.0 | | |
| 14. Physical Symptoms | -.24 | -.05 | -.16 | -.30 | .10 | -.12 | .02 | -.14 | .01 | -.30 | .43 | .45 | .11 | 1.0 | |
| 15. Times absent | -.10 | -.08 | -.06 | -.07 | -.10 | -.12 | -.25 | -.01 | -.08 | -.08 | .10 | .10 | .11 | .17 | 1.0 |

Note. $r_{xy}$ .17, p .05. $r_{xy}$ .26, p .01.

[a]Individual measure of technology.

characteristics scale support the interpretation of the three independent dimensions of the construct. The absence of high ($> .80$) bivariate correlations between pairs of independent variables reduces the probability of confounding results in regression analyses due to multicollinearity (Lewis-Beck, 1980).

Bivariate correlations involving technology are all insignificant. However, the relatively high correlation of the task characteristics measure with client characteristics ($r = .56$, $p < .01$), even though it is considerably lower than the .80 convention suggested by Lewis-Beck (1980), indicated that results of regressions using both client characteristics and task characteristics as predictors may be difficult to interpret.

## Reliabilities

Reliabilities were calculated for all scales (Table 4-5). Cronbach alphas range from .73 for the factor-based manageability scale to .87 for the physical symptoms scale. All reliabilities were judged adequate for the purpose of the research.

Kendall's coefficient of concordance was used (Table 4-6) to determine the interrater reliability of the assessment by three independent raters of unit technology. The agreement among the raters was significant ($p < .05$). In addition, Kendall's coefficient of concordance was used to determine the extent of agreement between the ranked mean scores by units on the technology scale and the ranked mean scores of the independent raters. The agreement was significant ($p < .07$).

Although the study depends to a great degree on self-report data, which introduces the question of common-method variance, the agreement between the independent and respondent-provided measures provides some evidence for the validity of the data.

TABLE 4-5

Reliabilities for Independent, Intervening and Dependent Variables

| Variable | Number of Items | Cronbach's Alpha |
|---|---|---|
| Independent Variables | | |
| Client characteristics | 15 | .81 |
| Likeability | 6 | .77 |
| Treatability | 3 | .83 |
| Manageability | 6 | .73 |
| Work load | 5 | .77 |
| Supervisor support | 4 | .89 |
| Coworker support | 4 | .80 |
| Family and friend support | 4 | .81 |
| Intervening Variables | | |
| Technology | 20 | .80 |
| Task characteristics | 21 | .80 |
| Dependent Variables | | |
| Burnout (MBI) | 22 | .82 |
| Burnout (SBSHP) | 20 | .80 |
| Anxiety | 10 | .83 |
| Physical symptoms | 30 | .87 |

TABLE 4-6

Interrater Reliabilites on Technology Scale

| Raters | W[a] | $X^2$ |
|---|---|---|
| Independent raters (N = 3) | .80 | 14.9** |
| Respondents (mean scores) and Independent raters (mean scores) | 1.07 | 13.3* |

[a]Kendall's coefficient of concordance.

*p < .07. **p < .05.

## Tests of Hypotheses

The results of previously reported analytic procedures and of multiple regression analyses to be reported in this section are used to test hypotheses of the study. Hierarchical regressions were run using the SPSS Update 7-9 package.

For each regression, control variables (age, unit, unit tenure, and education) were forced into the model first. Unit was analyzed as a dummy-coded variable. Each unit was contrasted with a category that included the outpatient department staff and nursing personnel who are not regularly assigned to a particular unit.

D1 represented the contrast of the outpatient department with the medical intensive care unit; D2, with the surgical intensive care unit; D3, with the neonatal unit; D4, with the surgical unit; D5, with the infectious medical unit, D6, with the chronic medical unit; and D7, with surgery.

Examination of frequencies and of a listing of relevant scale values by unit revealed that 14 of the 36 respondents who worked in the neonatal unit left substantial missing data when they completed the client characteristics scale. Several of them indicated by note on the questionnaire, as well as in conversation with members of the nursing education staff, that this omission of data occurred because they found it difficult to respond to questions about patients' attitudes or behavior when the patients were neonates. To avoid losing a substantial amount of data, regressions were run using the mean scores of the 22 persons from the unit who provided complete data as the subscale scores for those with missing data. The results of these regressions were compared to regressions from which all cases with missing data were deleted ($n$ = 84). Results of this sensitivity test indicated that use of the unit scale means for those cases did not change the pattern of significant results, although it marginally reduced the

size of the client characteristics effect. Consequently, all analyses interpreted in the testing of hypotheses included the 14 cases. In addition, three cases had two to four missing items on the client characteristics scale. Since they were not all on the same subscale, mean items scores for that subscale were substituted for the missing score. This approach is considered conservative treatment of the data (Nie, Hull, Jenkins, Stienbrenner, & Bent, 1975).

## Client Characteristics

The first hypothesis ($H_{1a}$) suggested that the underlying dimensions of relevant client characteristics are manageability, treatability, and likeability. Results of factor analysis reported above (Table 4-1) support this hypothesis. Although additional interpretable factors emerged, the clear discontinuity of eigenvalues between the third and fourth factors, and the fact that each successive factor after the third explained less additional variance than the third, provided supportive evidence for considering likeability, manageability and treatability the primary dimensions of the client characteristics variable.

## Burnout

Client Characteristics. It was hypothesized ($H_{1b}$) that positive evaluation of client characteristics is negatively and significantly related to burnout.

Clients Characteristics and MBI. The bivariate correlation between client characteristics and burnout, measured using the Maslach Burnout Inventory was -.33 ($p < .01$). When burnout was regressed (Table 4-7) on the control variables and client characteristics, D3 ($F = 4.67$, $p < .05$), D6 ($F = 5.80$, $p < .05$) and D7 ($F = 4.75$, $p < .05$) were significant predictors. In addition, client characteristics were negatively and significantly ($F = 4.59$, $p < .05$) related to burnout, and

TABLE 4-7

Regression of Burnout on Client Characteristics

| Predictor | Burnout (MBI) Beta | Burnout (MBI) F | Burnout (SBSHP) Beta | Burnout (SBSHP) F |
|---|---|---|---|---|
| Age | -.10 | .73 | -.09 | .54 |
| D1[a] | .01 | .00 | .04 | .07 |
| D2 | .21 | 3.17 | .05 | .17 |
| D3 | .30 | 4.67* | .17 | 1.36 |
| D4 | .19 | 2.62 | .09 | .59 |
| D5 | .22 | 2.77 | .09 | .42 |
| D6 | .28 | 5.80* | .17 | 2.01 |
| D7 | .22 | 4.75* | .28 | 7.23** |
| Unit tenure | -.06 | .80 | -.22 | 2.98 |
| Education | .09 | .24 | .02 | .02 |
| Client Characteristics | -.24 | 4.59* | .04 | .11 |
| | $R^2$ = 26** | | $R^2$ = .16 | |

Note. $n$ = 99

[a]Each unit is contrasted with outpatient department and non-unit personnel.
*$p < .05$. ** $p < .01$.

explained an additional 4% of the variance after D1 and D3 had entered the equation. $R^2$ for the model is .26 ($p < .01$). These analyses provide support for the hypothesis.

Client Characteristics and SBSHP. The bivariate correlation between the Stress-Burnout Scale for Health Professionals measure of burnout and client characteristics is insignificant. When this measure of burnout was regressed (Table 4-7) on the control variables and client characteristics, only D7 emerged as significantly related ($F = 7.23$, $p < .01$). Neither the zero-order correlation nor the regression analyses offers support for the hypothesized client characteristics-burnout relationship.

In summary, $H_{1b}$ is supported when burnout is measured using the Maslach Burnout Inventory and unsupported when burnout is measured using the Stress Burnout Scale for Health Professionals.

Work Load. It was hypothesized ($H_{2a}$) that work load is positively and significantly related to burnout. The bivariate correlation of work load with the MBI was .34 ($p$ .01). In regression analysis, burnout (MBI) was predicted (Table 4-8) by D3 ($F = 5.44$, $p < .05$), D7 ($F = 5.35$, $p < .01$), client characteristics ($F = 10.02$, $p < .01$), and work load ($F = 15.86$, $p < .01$).

When burnout was measured using the SPSHP, the zero-order correlation was .37 ($p < .01$). When SBSHP scores were regressed (Table 4-8) on the control variables, client characteristics, and work load, D7 ($F = 8.08$, $p < .01$) and work load ($F = 14.09$, $p < .01$) entered the equation as significantly and positively related to burnout. The analyses provide support for the hypothesized relationship between work load and burnout.

It was further hypothesized ($H_{2b}$) that when client characteristics are positively evaluated, work load is unrelated to burnout. The hypothesis was

TABLE 4-8

Regression of Burnout on Client Characteristics and Work Load

| Predictor | Burnout (MBI) | | Burnout (SBSHP) | |
|---|---|---|---|---|
| | Beta | F | Beta | F |
| Age | -.11 | 1.07 | -.10 | .80 |
| D1[a] | -.06 | .27 | -.03 | .07 |
| D2 | .14 | 1.63 | -.02 | .03 |
| D3 | .29 | 5.44* | .17 | 1.54 |
| D4 | .15 | 1.86 | .05 | .22 |
| D5 | .13 | 1.06 | -.00 | .00 |
| D6 | .12 | 1.11 | .01 | .01 |
| D7 | .21 | 5.35* | .28 | 8.08** |
| Unit tenure | -.06 | .27 | -.22 | 3.37 |
| Education | .07 | .58 | -.00 | .00 |
| Client characteristics | -.34 | 10.02** | -.06 | .27 |
| Work load | .38 | 15.86** | .38 | 14.09** |
| | $R^2$ = .37** | | $R^2$ = .28** | |

Note. n = 99

[a]Each unit is contrasted with outpatient and non-unit personnel.

*p < .05. **p < .01.

tested using moderated regressions (Table 4-9). Burnout was regressed on the control variables, client characteristics, work load, and the interaction of workload and client characteristics. When burnout was measured using the MBI, no interaction effect appeared, but when it was measured using SPSHP there was a significant and negative interaction ($F = 17.08$, $p < .01$) of work load and client characteristics. When client characteristics scores increased, the effect of work load on burnout decreased.

To test the hypothesis more specifically, an additional regression was run, using only cases with client characteristic scores above the median. For regressions of both MBI and SBSHP on burnout (Table 4-10), only D7 remained as a significant correlate (MBI, $F = 10.04$, $p < .01$; SBSHP, $F = 16.54$, $p < .01$). Since work load was a significant predictor of burnout in the whole sample, for both measures of burnout, and was not related when sample range was limited to high client characteristics scores, the data provide strong support for the hypothesis that when client characteristics are positively evaluated, work load will be unrelated to burnout.

Social Support. It was hypothesized ($H_{3a}$) that social support is negatively and significantly related to burnout. Bivariate correlations of burnout (MBI) and social support were: supervisor support, -.21, ($p < .05$); coworker support, -.13 (ns); and family and friend support, -.24 ($p < .05$). Regression analysis using the MBI measure revealed (Table 4-11) that burnout was significantly related to D2 ($F = 5.72$, $p < .01$), D3 ($F = 6.86$, $p < .01$), D4 ($F = 4.04$, $p < .01$), and D6 ($F = 6.81$, $p < .01$), client characteristics ($F = 6.72$, $p < .01$), and inversely to family support ($F = 5.78$, $p < .01$).

Bivariate correlations of burnout (SBSHP) with social support measures were: supervisor support, -.17 ($p < .05$); coworker support, -.07 (ns), and family and friend support, -.23 ($p < .05$). Regression of SBSHP on the control, client

TABLE 4-9

Regression of Burnout on Client Characteristics, Work Load, and Interaction of Client Characteristics with Work Load

| Predictor | Burnout (MBI) Beta | Burnout (MBI) F | Burnout (SBSHP) Beta | Burnout (SBSHP) F |
|---|---|---|---|---|
| Age | | | | |
| D1[a] | -.02 | .05 | .02 | .04 |
| D2 | .19 | 3.29 | .09 | .69 |
| D3 | .31 | 6.14* | .13 | 1.12 |
| D4 | .14 | 1.62 | .01 | .01 |
| D5 | .16 | 1.81 | .04 | .12 |
| D6 | .15 | 1.90 | .07 | .36 |
| D7 | .20 | 4.88* | .25 | 7.31** |
| Education | .08 | .74 | -.00 | .00 |
| Client characteristics | -.16 | .63 | .62 | 9.45** |
| Work load | .72 | 5.51* | 1.60 | 26.47** |
| Client characteristics X Work load | .43 | 1.39 | -1.53 | 17.08** |
| | $R^2$ = 37** | | $R^2$ = 35** | |

Note. $n$ = 99

[a]Each unit is contrasted with outpatient department and non-unit personnel.

*$p < .05$. ** $p < .01$.

TABLE 4-10

Regression of Burnout on Client Characteristics and Work Load with Range for Client Characteristics Restricted to Scores Above Median

| Predictor | Burnout (MBI) | | Burnout (SBSHP) | |
|---|---|---|---|---|
| | Beta | F | Beta | F |
| Age | -.26 | 1.83 | -.29 | 2.69 |
| D1[a] | .01 | .01 | .09 | .41 |
| D2 | .33 | 3.64 | .24 | 2.19 |
| D3 | .33 | 2.72 | .16 | .75 |
| D4 | .20 | 1.43 | -.04 | .06 |
| D5 | | | | |
| D6 | -.04 | .07 | .07 | .23 |
| D7 | .49 | 10.04** | .58 | 16.54** |
| Unit tenure | -.03 | .02 | -.20 | 1.26 |
| Education | -.11 | .44 | -.12 | .64 |
| Client characteristics | .13 | .76 | .03 | .04 |
| Work load | .05 | .10 | -.05 | .13 |
| | $R^2$ = .39 | | $R^2$ = .48* | |

Note. n = 99

[a]Each unit is contrasted with outpatient department and non-unit personnel.

*p <.05. ** p <.01.

TABLE 4-11

Regression of Burnout on Client Characteristics and Social Support

| Predictor | Burnout (MBI) | | Burnout (SBSHP) | |
|---|---|---|---|---|
| | Beta | F | Beta | F |
| Age | -.13 | 1.95 | -.11 | 1.01 |
| D1[a] | | | | |
| D2 | .25 | 5.72* | | |
| D3 | .29 | 6.86* | .09 | .75 |
| D4 | .21 | 4.04* | | |
| D5 | .22 | 3.85 | | |
| D6 | .26 | 6.81* | .11 | 1.17 |
| D7 | .14 | 1.99 | .22 | 4.52* |
| Unit tenure | | | -.20 | 3.14 |
| Education | .13 | 1.74 | | |
| Client characteristics | -.25 | 5.78* | | |
| Supervisor support | | | | |
| Coworker support | | | | |
| Family support | -.25 | 6.72* | -.16 | 2.61 |
| | $R^2$ = .31** | | $R^2$ = .17* | |

Note. $n$ = 99

[a]Each unit is contrasted with outpatient department and non-unit personnel.

*$p < .05$. ** $p < .01$.

characteristics, and support variables revealed that only D7 ($F$ = 4.52, $p < .01$) was significantly related to burnout.

The data provide partial support for the hypothesis. Family support is a predictor (inversely) of burnout measured by the MBI.

It was further hypothesized ($H_{3b}$) that, when client characteristics are positively evaluated, social support will be unrelated to burnout. Regression of MBI on the control, client characteristics, and social support variables, and on the interaction of client characteristics with each support variable, revealed (Table 4-12) no significant interactions with the MBI measure of burnout, but did reveal a significant (inverse, $F$ = 6.84, $p < .01$) effect of the coworker support-client characteristics interaction on the SBSHP measure. That is, when client characteristics were positively evaluated, the effect of coworker support was reduced.

To test the hypothesis more specifically, an additional regression was run using only cases for which client characteristics scores were above the median. When MBS was regressed (Table 4-13) on control variables, client characteristics, and social support variables in the restricted sample, only D2 ($F$ = 6.47, $p < .05$) and D7 ($F$ = 7.52, $p < .05$) emerged as significantly related to burnout, although in regressions using the total sample family support was a significant predictor. This finding lends some support for the hypothesis that when client characteristics are positively evaluated, social support is unrelated to burnout.

Anxiety. It was hypothesized ($H_{4a}$) that anxiety and burnout are negatively and significantly correlated. The zero-order correlation for anxiety and MBI is .52 ($p$ .01) and for anxiety and SBSHP is .55 ($p < .01$). The data do not support the hypothesis.

TABLE 4-12

Regression of Burnout on Client Characteristics, Social Support, and Interaction

| Predictor | Burnout (MBI) | | Burnout (SBSHP) | |
|---|---|---|---|---|
| | Beta | F | Beta | F |
| Age | -.13 | 1.23 | -.21 | 3.16 |
| D1[a] | -.01 | .00 | -.05 | .15 |
| D2 | .24 | 3.99* | .01 | .01 |
| D3 | .28 | 3.53 | -.04 | .06 |
| D4 | .21 | 2.92 | -.01 | .00 |
| D5 | .25 | 3.46 | .04 | .11 |
| D6 | .22 | 3.57 | .07 | .38 |
| D7 | .13 | 1.55 | .21 | 3.88 |
| Unit tenure | -.03 | .04 | -.05 | .16 |
| Education | .12 | 1.37 | -.02 | .04 |
| Client characteristics | -.08 | .02 | .61 | 1.18 |
| Coworker support | .79 | 1.97 | 1.44 | 6.5** |
| Supervisor support | -.76 | 1.04 | .15 | .04 |
| Family support | -.24 | .16 | -.63 | 1.12 |
| Client characteristics X coworker support | -.89 | 1.66 | -1.81 | 6.84* |
| Client Characteristics X family support | .83 | .89 | -.32 | .13 |
| | -.01 | .00 | .68 | .84 |
| | $R^2$ = .33** | | $R^2$ = .33* | |

Note. n = 99

[a]Each unit is contrasted with outpatient department and non-unit personnel.

*p < .05. ** p < .01.

TABLE 4-13

Regression of Burnout on Client Characteristics and Social Support, with Range for Client Characteristics Restricted to Scores Above Sample Median

| Predictor | Burnout (MBI) | | Burnout (SBSHP) | |
|---|---|---|---|---|
| | Beta | F | Beta | F |
| Age | -.29 | 3.95 | -.32 | 3.97 |
| D1[a] | | | .23 | 2.88 |
| D2 | .37 | 6.47* | .14 | 1.03 |
| D3 | .30 | 3.68 | | |
| D4 | .23 | 2.74 | | |
| D5 | | | | |
| D6 | | | | |
| D7 | .39 | 7.52* | .51 | 13.49** |
| Unit tenure | | | -.20 | 1.70 |
| Education | | | | |
| Client characteristics | | | | |
| Supervisor support | | | | |
| Family and friend support | -.25 | 3.24 | -.15 | 1.21 |
| Coworker support | | | | |
| | $R^2$ = .42** | | $R^2$ = .48** | |

Note. $n$ = 42

[a]Each unit is contrasted with outpatient department and non-unit personnel.

*$p < .05$. ** $p < .01$.

The further hypothesis ($H_{4b}$) that positive evaluation of client characteristics is negatively and significantly related to anxiety was tested using bivariate correlations and regression analysis. The correlation between anxiety and client characteristics for the sample is insignificant. Regression of anxiety on the control variables and client characteristics indicated (Table 4-14) that anxiety was significantly related to D5 ($F = 9.12$, $p < .01$), D6 ($F = 6.81$, $p < .05$) and D7 ($F = 5.38$, $p < .05$). It was not related to client characteristics.

The additional hypothesis ($H_{4c}$) that anxiety is better predicted by manageability and treatability than by likeability was tested by regressing anxiety on the control variables and on the three client characteristics subscales. Although three of the contrasted unit variables (Table 4-15) were significantly related to anxiety, manageability, likeability , and treatability are not.

In summary, analyses of the data from this sample provide no support for the hypotheses relevant to anxiety.

Physical Symptoms. It was hypothesized ($H_{5a}$) that positive evaluation of client characteristics is negatively and significantly related to physical symptoms. The bivariate correlation between client characteristics and physical symptoms was -.24 ($p < .05$). When the physical symptoms score was regressed on the control variables and client characteristics, the only significant predictor (Table 4-14) that emerged was client characteristics (inversely, $F = 4.16$, $p < .05$). The hypothesized negative and significant relationship between gastrointestinal symptoms and client likeability ($H_{5b}$) was tested using as the measure of gastrointestinal symptoms, the items that emerged as the first factor of the physical symptoms scale. The bivariate relationship between the two variables was insignificant. Regression of gastrointestinal symptoms on the control variables

Table 4-14

Regression of Anxiety on Client Characteristics and on Manageability, Likeability, and Treatability

| Predictor | Anxiety | | Anxiety | |
|---|---|---|---|---|
| | Beta | F | Beta | F |
| Age | | | -.01 | .02 |
| D1[a] | | | .04 | .12 |
| D2 | | | .11 | .84 |
| D3 | | | .14 | .95 |
| D4 | .17 | 3.29 | .23 | 3.60 |
| D5 | .28 | 9.12** | .35 | 6.43* |
| D6 | .25 | 6.81* | .30 | 6.91** |
| D7 | .22 | 5.38* | .25 | 6.15* |
| Unit tenure | -.19 | 3.63 | -.17 | 1.78 |
| Education | | | -.02 | .03 |
| Client characteristics | | | | |
| Manageability | | | .03 | .07 |
| Likeability | | | -.01 | .00 |
| Treatability | | | | |
| | $R^2$ = .21** | | $R^2$ = .22* | |

Note. n = 99

[a]Each unit is contrasted with outpatient department and non-unit personnel.

*p < .05. ** p < .01.

TABLE 4-15

Regression of Physical Symptoms on Client Characteristics

| Predictor | Beta | F |
|---|---|---|
| Age | -.02 | .03 |
| D1[a] | -.04 | .07 |
| D2 | .03 | .06 |
| D3 | .23 | 2.42 |
| D4 | .12 | .85 |
| D5 | -.04 | .07 |
| D6 | .09 | .55 |
| D7 | .10 | .90 |
| Unit tenure | -.05 | .14 |
| Education | -.08 | .50 |
| Client characteristics | -.25 | 4.16* |
| | $R^2$ = .13 | |

Note. n = 99

[a]Each unit is contrasted with outpatient and non-unit personnel.

**p < .05. **p < .01.

and client characteristics revealed that, for this sample, the inverse relationship of age ($F = 4.01$, $p < .05$) to gastrointestinal symptoms was the only significant predictor that emerged.

The hypothesized ($H_{5c}$) relationship between client characteristics and cardiac symptoms could not be tested on the basis of these data, since a cardiac symptoms factor did not emerge in the factor analysis of physical symptoms. The hypothesized negative relationship between client characteristics and physical symptoms is supported by the analyses, but the hypothesized relationships between subscales of client characteristics and subscales of physical symptoms are not.

Absence Frequency. It was hypothesized ($H_{6a}$) that client characteristics and absence frequency are negatively and significantly related. The bivariate correlation between the two measures for this sample was insignificant. When absence frequency was regressed on the control variables and client characteristics, no predictor was significantly related to absence frequency. Similarly, when the hypothesized relationship ($H_{6b}$) between client characteristics subscales and absence frequency was tested by regression, no predictor variables emerged as significant predictors of absence frequency for this sample. The hypotheses regarding absence frequency are not supported by the data.

## Staged Regressions

Testing the hypotheses relative to the indirect effect of client characteristics on burnout through technology and/or task characteristics involved the use of staged regression analyses.

Technology. It was hypothesized ($H_{7a}$) that routineness of technology could be predicted by treatability. The bivariate correlation between treatability and technology was insignificant. When technology was regressed on the control

variables and treatability, no significant predictor emerged. Similarly, regression of technology on the full client characteristics scale revealed (Table 4-16) no significant relationships. It was also hypothesized ($H_{7b}$) that burnout could be predicted by technology. Regression of burnout on the control variables, client characteristics, and technology indicates that there is no significant predictor in the model.

Analyses of these data provide no support for the hypothesized indirect effect of client characteristics on burnout through technology.

Task Characteristics. It was hypothesized ($H_{8a}$, $H_{8b}$) that manageability and treatability are positively and significantly related to task characteristics. The bivariate correlation of task characteristics (JDS) with manageability was .47 ($p < .01$), with treatability was .22 ($p < .01$), and with likeability was .46 ($p < .01$). The regression test of the hypothesis was run using the combined client characteristics scale which had a zero-order correlation with task characteristics of .56 ($p < .01$). JDS was predicted by age ($F = 8.32$, $p < .01$), D7 ($F = 7.20$, $p < .01$) and client characteristics ($F = 19.91$, $p < .01$). It was further hypothesized ($H_{8c}$) that burnout could be predicted by task characteristics. When burnout (MBI) was regressed (Table 4-17) on the control variables, client characteristics, and task characteristics, D2 ($F = 4.60$, $p < .05$), D3 ($F = 4.60$, $p < .05$), D5 ($F = 5.89$, $p < .05$), D6 ($F = 9.09$, $p < .01$), and JDS ($F = 7.53$, $p < .01$) emerged as signficant predictors. The client characteristics beta became insignificant when JDS was in the model.

Lewis-Beck (1980) has suggested that when regression coefficients are markedly changed by the inclusion of additional independent variables in the equation, extreme multicollinearity should be suspected. He further suggested that a useful test for multicollinearity involves regressing each independent

TABLE 4-16
Staged Regressions of Technology on Client Characteristics and of Burnout on Technology and Client Characteristics

| Predictor | Technology | | Burnout (MBI) | |
|---|---|---|---|---|
| | Beta | F | Beta | F |
| Age | .10 | .73 | -.15 | 2.23 |
| D1[a] | .15 | 1.38 | | |
| D2 | .13 | 1.11 | .19 | 2.99 |
| D3 | .15 | 1.14 | .31 | 6.96** |
| D4 | -.13 | 1.15 | .17 | 2.57 |
| D5 | -.05 | .14 | .26 | 5.54** |
| D6 | -.03 | .04 | .30 | 8.85** |
| D7 | .03 | .06 | .20 | 4.37* |
| Unit tenure | -.09 | .48 | | |
| Education | .11 | .99 | | |
| Client characteristics | .12 | .97 | -.12 | 1.19 |
| Technology | | | | |
| | $R^2$ = .14** | | $R^2$ = .22* | |

Note. n = 99

[a]Each unit is contrasted with outpatient department and non-unit personnel.

*p < .05. ** p < .01.

TABLE 4-17

Staged Regressions of Task Characteristics on Burnout, and of Burnout on Client Characteristics and Task Characteristics

| Predictor | Task (JDS) | | Burnout (MBI) | |
|---|---|---|---|---|
| | Beta | F | Beta | F |
| Age | .30 | 8.32* | -.01 | .01 |
| D1[a] | .02 | .04 | .06 | .28 |
| D2 | .11 | 1.09 | .25 | 4.60 |
| D3 | -.22 | 3.41 | .29 | 4.60* |
| D4 | -.08 | .61 | .20 | 2.90 |
| D5 | -.04 | .14 | .30 | 5.89* |
| D6 | .04 | .14 | .34 | 9.09** |
| D7 | -.24 | 7.20** | .13 | 1.67 |
| Unit Tenure | .06 | .32 | -.07 | .33 |
| Education | .10 | 1.07 | .13 | 1.62 |
| Client Characteristics | .46 | 19.91** | -.05 | .14 |
| JDS | | | -.32 | 7.53** |
| | $R^2$ = .39** | | $R^2$ = .29** | |

Note. n = 106

[a]Each unit is contrasted with outpatient and non-unit personnel.

* $p < .01$. ** $p < .05$

variable on all others. Due to the reduction of the client characteristics regression coefficient from -.24 ($p < .05$) without JDS in the model to -.05 (NS) with JDS in the model, the suggested regressions were run. The $R^2$ for each such regression is a measure of the extent of multicollinearity with the highest $R^2$ for the set of regressions representing the extent of the relationship. $R^2$ for regression of client characteristics on controls and JDS was .11, and for JDS on controls and client characteristics was .38. Neither value suggested excessive multicollinearity between client characteristics and JDS.

In the absence of a conclusion of multicollinearity, the data support the hypothesized indirect effect of client characteristics on burnout through task characteristics.

Effects of Control Variables

Unit tenure and education were not significant predictors in any of the analyses run. Age was significant only in relation to (inversely) gastrointestinal symptoms, and to task characteristics. In most of the regressions, at least one dummy-coded departmental variable was a significant predictor of the dependent variable being studied. The unit used as the contrast unit, the category containing outpatient and non-unit nurses, had the lowest burnout and highest client characteristics scores among units. By contrast, the chronic medical unit had the highest burnout and work load scores with relatively low scores on supervisor support and family support. Similarly, surgery (D7), which had a moderately high burnout mean score, and was a significant predictor in five regressions, had low family and coworker support, and the lowest score among units on task characteristics. Although the work load mean is not high, the lack of perceived support may have changed the ways in which employees on this unit have interpreted work load.

## Summarized Results of Tests of Hypotheses

In summary, the data analyses have provided support for the hypothesized dimensionality of client characteristics. In addition, results of the study indicate that burnout is predicted by client characteristics (inversely), by work load, and by family support (inversely). The effects of work load and of family support do not maintain, however, when client characteristics are positively evaluated.

Client characteristics are also related significantly and inversely to physical symptoms, but not to anxiety and absence frequency. The hypothesized indirect effect of client characteristics through task characteristics was supported, while the hypothesized indirect effect through technology did not predict burnout.

Implications of these results relative to answering the research questions posed, as well as for organizational functioning and further research, are presented in Chapter V.

# CHAPTER V

# DISCUSSION

In an era and a society that give at least lip service to the value of the individual and the development of his/her full potential, organizational theorists and administrative practitioners have attended more seriously to the importance of the work place experience as it affects the quality of life. Concern about the stress experiences of workers has been prominent in discussions of quality of work life issues. Among helping professionals, the quality of work life is determined, in large measure, by the nature of the interpersonal event that defines the helper-client relationship. The nature of the interpersonal event is, in turn, significantly influenced by characteristics of the client. The stress experience of helping professionals frequently results in a particular form of strain termed burnout. This study has explored the core relationship of a single stressor, client characteristics, to a single strain, burnout, within the context of the stress research paradigm.

## Methodological Concerns

Although the study has attempted to respond to some of the concerns about the nature of stress research in general, as reviewed below, its design introduces specific concerns relative to validity, which are also addressed briefly.

In response to the call by Beehr and Newman (1978) for systematic exploration of variables in the stress model, the study was designed to explore a single relationship from several perspectives. An attempt was made to avoid confounding independent and dependent variables by thorough explication of the conceptual model, definition of variables, and careful operationalization. In addition, the nature of a relationship (direct vs. indirect; main effects vs. interaction effects), as well as the fact of relationship, was explored, using multivariate techniques that permit partialling the effects of correlated predictors.

Despite the attempt to develop a methodologically sound study, several concerns must be addressed. One problem, which could be predicted by the previous findings of McLean (1974), is the relatively restricted range on the dependent variables. In addition, as is true of much behavioral research, the issue of common-method variance is relevant. Most of the data were secured by self-report. Since many of the variables reflect, by their very nature, evaluation and perception, subjective measurement does appear to be a valid approach. The congruence between the scoring by independent raters and by questionnaire respondents of the technology measure is offered as evidence that the effect of common-method variance may be minimal.

Similarly, because independent variables used in behavioral research are often correlated, and because bivariate correlations may not capture some instances of multicollinearity, the possibility of problems of extreme multicollinearity must be acknowledged, even though the problem appears not to have impacted the analyses involving client characteristics and task characteristics.

Careful specification of independent variables for inclusion in the model, even when based on previous theory and empirical findings, does not preclude the possibility that certain significant or suppressor variables have been omitted.

Finally, the problem of non-generalizability must be acknoweldged. Since the data were collected from members of a single organization, the findings cannot be considered applicable to other settings unless or until they are validated in other samples.

Measurement of Client Characteristics

A necessary introductory step for implementation of the study was design of a client characteristics measure. Although derivation of the scale is described elsewhere, evidence regarding its validity is relevant at this point. The facts that the bivariate correlations among the subscales exceed any other bivariate correlations among the predictor set; that the a priori factors, identified from previous research and theory, emerged as primary factors; and that the highest correlation outside the predictor set is with JDS, which is expected because client characteristics can bear directly on such issues as autonomy, significance, and feedback, suggest that the client characteristics measure is useful for the present research.

Measurement of Burnout

Two instruments were used for the measurement of burnout. The Maslach Burnout Inventory (Maslach and Jackson, 1981) appears to be the most frequently-cited measure of burnout. The Stress-Burnout Scale for Health Professionals (Jones, 1980) was developed to measure the same dimensions of burnout (personal accomplishment, depersonalization, and emotional exhaustion) as those measured by the MBI. However, items are included which attempt to measure behavioral and psychophysiological responses as well as psychological responses, while the MBI measures only psychological responses.

Although the bivariate correlation between the two scales is high (.69, p .01), and they have similar correlations with other dependent variables, they are differentially predicted by the independent measures.

Because the MBI has more face validity relative to the definition of burnout used in this study, and because it is more widely used in the burnout literature, findings relevant to burnout discussed below are based on results of analyses using the MBI.

## Implications of Findings Relevant to Research Questions

### Research Question 1

The first question posed in the systematic exploration of the core relationship inquired about the existence of a relationship between client characteristics and burnout. The question arose as a result of an effort to understand the implications for helping professionals of the interpersonal event that defines their work. A review of the literature had identified characteristics of that event which might be critical to the work experience of nurses in a number of ways. The content of the items that comprise the empirically-derived measure of client characteristics offers evidence of the importance of those characteristics for understanding the interpersonal event between client and helper. Jacobson (1978) and Marshall (1980) identified threat to competence as a critical stress issue for nurses; items emerged regarding competence and blame in the helping relationship. The fear of failure characteristic suggested by Koocher (1979) and others as critical for nurses was operationalized in the treatability items. Vreeland and Ellis (1969) and Hay and Oken (1972) emphasized the costs of providing care to patients whose conditions made them unattractive; an item describing patients as difficult to look at loaded on the

manageability dimension of the scale. The potential for stress that results from the visibility of the nurse, which leaves her open to constant evaluation, was identified by Marshall (1980) and others; items regarding appreciation and cooperation reflect positive aspects of evaluation.

The quality of the interpersonal event and thus the relationship of client characteristics to burnout are affected not only by characteristics of the event, but also by the extent of the helper's vulnerability to burnout. Although individual differences that might moderate the relationship were not measured in the self-report data, interviews with nurse managers provided some clues to vulnerability on the unit level. For example, Freudenberger (1975) suggested the extreme need of clients and the ultimate routineness of the job, even in the midst of urgency, as factors which predispose individuals to burnout. Perlman and Hartman (1982) emphasized that the intensity and intimacy of contacts with clients also create vulnerabilty to stress. Each of these factors was identified during interviews as being a reality in the work situation of the nurse respondents.

In this conceptual context, the quality of the interpersonal event may be characterized at least in part in terms of the research question posed. The evidence clearly supports the fact of a relationship between client characteristics and burnout such that when client characteristics are positively evaluated, the level of burnout is lower. This finding provides empirical support for the conceptual literature (Maslach, 1978, 1982) which emphasizes that clients do affect burnout among professionals. It also lends credence to the thesis of this paper regarding the need to explore the effect of clients on helpers as well as the more-often addressed questions regarding the effect of helpers on clients.

Research Question 2

The second research question inquires about the comparative effects of client characteristics and other stressors on burnout. Maslach (1982) suggested work overload and dealing with coworkers and with supervisors as factors of the job setting expected to affect burnout, and family status as a personal characteristic that affects burnout. The stress literature includes studies that demonstrate that work overload is related to negative outcomes for the individual, but none that deals specifically with work load as a predictor of burnout. The nature of the tasks of nursing, as well as information gathered in interviews, would suggest that work load is a predictor of burnout.

Results of this study indicate that, in the total sample, work load explains more variance in burnout than does any other predictor. However, one of the most provocative findings of the study is that, when client characteristics are positively evaluated, work load is unrelated to burnout. This finding may be interpreted to mean that "good patients" change either the amount of work or the perception of the amount of work. On the other hand, it may mean that when helpers are not in an overload condition they have time and energy to look beyond presenting medical and situational behavioral problems, and can discover more positively evaluated characteristics of patients. Due to the cross-sectional design of this study, causation cannot be inferred in the interpretation of this finding.

For purposes of this study the potential stressors relative to coworker, supervisor, and family relationships were conceptualized within the social support framework. It is generally assumed, and the literature tends to confirm, that the effect of social support is positive. However, there are suggestions in the burnout literature (e.g., Maslach, 1982) that the need to interact with and attend to additional people may impose further strain on helping professionals. For this

sample, only family support was significantly (inversely) related to burnout. This relationship was true only for the total sample, indicating that the effect of family support is not significant when client characteristics are positively evaluated.

Based on the data from this sample it is difficult to interpret the lack of significance of coworker and supervisor support. Since scores on these two social support variables were significantly lower than the family support score, the lack of an effect may reflect the lack of sufficient levels of support to produce an effect.

The stressors chosen for study are representative of three aspects of the nurses' work experience: the interpersonal event that defines the job, the amount and difficulty of the work itself, and one type of resource available for doing the work. An additional regression was run, regressing burnout on the control variables and all of the predictors. With all variables in the equation, the relative magnitudes of the effects obtained with single-predictor models were retained. That is, work load ($F$ = 19.31, $p < .01$), client characteristics ($F$ = 9.65, $p < .01$), and family support ($F$ = 8.31, $p < .01$) explained 8%, 7%, and 6% of the variance respectively in a model that explained 45% of the variance in burnout. When interactions of client characteristics with work load and with the social support variables were added to the model, the interaction of work load with client characteristics was again significantly and inversely related to burnout. It appears, then, that the amount and difficulty of work are slightly more critical than the interaction of helpers with either clients or support systems, and that the effect of work load differs with differing evaluation of client characteristics.

Research Question 3

The third research question explores whether client characteristics predict various strains differentially. In order to explore the client characteristic-

burnout relationship systematically, an effort must be made to determine whether client characteristics predict any or all classes of strains. Consequently, in addition to exploring their relationship to the long-term psychological strain, burnout, the study explored the relationship of client characteristics to the short-term psychological strain, anxiety; to the behavioral strain, absence frequency; and to the physiological strain, physical symptoms.

Although numerous studies were cited above indicating that anxiety is predicted by stressors such as role overload, role conflict, and role ambiguity, and several (Gow & Williams, 1977, Mayer & Rosenblatt, 1974) seemed to suggest that client characteristics affect strain, this study does not support those findings. Similarly, the literature strongly suggests that role stressors are related to absenteeism, but the only study (Parkes, 1982) that examined the relationship of a client characteristic (sex of patient) to stress found no significant relationship. In this study, also, client characteristics and frequency of absence were unrelated.

There was however, a significant effect of client characteristics on the composite physical symptoms measure, although the hypothesized relationship between the treatability of the client and the specifically gastrointestinal symptoms outcome was not found. The data offer some support for a general relationship between client characteristics and physical symptoms, but not for the suggestion of Mason et al. (1976) that specific stressors result in specific strains.

Based upon the results of this study it was concluded that client characteristics do predict burnout and other strains differentially.

Research Question 4

The fourth research question inquires about the mechanism through which client characteristics affect burnout. Since client characteristics can be concep-

tualized either as raw material (Perrow, 1965) or in terms of the interpersonal event (Jermier, 1982), it seemed possible that client characteristics might have an indirect effect on burnout because, as the raw material of the organization, they would affect technology, which was expected, in turn, to be related to burnout. Empirically, however, no support was found for either relationship. It may be that time is the critical unmeasured variable: the nature of the raw material determines technology early in the life of the organization. After the technology is in place, a structure evolves that distributes the "raw material" in such a way that most variance in routineness is neutralized.

Alternatively, it was thought that client characteristics, conceptualized as a component of the interpersonal event, might be related to burnout indirectly through the worker's perception of task characteristics. The data did support this conceptualization to such an extent that, when burnout was regressed on task characteristics along with client characteristics, the significance of the client characteristics effect disappeared. Since it was subsequently demonstrated that this effect was not due to excessive multicollinearity, it appears that much of the effect of client characteristics is captured in the evaluation of task characteristics.

In an attempt to clarify the relationship among client characteristics, task characteristics, and burnout, an additional regression was run, including all predictors, and interactions of all predictors with client characteristics. Emerging as significant predictors were, in addition to contrasts D3, D4, and D2, work load ($F = 10.73$, $p < .01$), JDS (inversely, $F = 8.82$, $p < .01$), family support (inversely, $F = 12.78$, p .01), work load interaction with client characteristics (inversely, $F = 6.01$, $p < .05$), and JDS interaction with client characteristics ($F - 4.90$, $p < .05$). These results suggest that there is an interaction of client characteristics and task characteristics such that positive evaluation of task characteristics

and positive evaluation of client characteristics are significantly and positively correlated, even when multiple predictors are in the model. Since the interaction is symmetrical, it is not possible to be certain whether JDS moderates the client characteristic to burnout relationship, or whether client characteristics moderate the JDS to burnout relationship. However, the results suggest that the task characteristics serve as an intervening, and possibly, as a moderating variable in the client characteristics-burnout relationship.

### Summary

Results of the study have provided evidence that client characteristics are related to burnout among helping professionals, that burnout is predicted differentially by client characteristics and other stressors, that client characteristics predict burnout and other strains differentially, and that mechanisms may be identified which begin to explain the manner in which the client characteristics to burnout effect occurs.

## Implications of Results for Administrative Practice

The obvious implications of this study relative to administrative practice in organizations employing helping professionals are in the areas of influencing perceptions of client characteristics, attention to perceptions of work load, and maximizing the effect of family support.

Attention to means by which professionals will evaluate clients more positively can be expected to improve the quality of work life in several ways. First, positive evaluation of client characteristics will have a direct effect on the incidence of burnout. In addition, when clients are viewed positively, the effect of work load on burnout may be expected to be minimized. Further, the

incidence and/or severity of physical symptoms may be reduced when helping professionals positively evaluate their clients.

The means for influencing how professionals evaluate clients are less clear than the expected effects. It is possible that developing a norm that encourages professionals to become more personally involved would result in more positive evaluation of clients, since increased investment tends to lead to more positive evaluation of that in which the investment has been made. At the same time, personal investment may render the professional more vulnerable to loss, and/or may conflict with professional socialization.

Organizations may also intentionally structure jobs and routines in such a way that professionals have an opportunity to work with the types of clients that they tend to evaluate most positively, and/or create treatment situations such that positive aspects of the client's person are evident. In addition, administration may profitably monitor to see that, through formal or informal means, difficult clients are equitably assigned.

Another implication of the study for administrative practice is suggested by the consistently large proportion of variance explained by work load. Since several factors appear to affect how work load is perceived and evaluated, administrators may wish to engage in problem-solving with professionals to determine ways in which negative effects of work load may be minimized, even in situations in which no substantial change may be made in the absolute amount of work to be done.

In addition, the findings suggest that organizations could work to establish a climate in which family support is valued and its effects are therefore enhanced, and that alternative sources of support are made available.

## Implications of Results for Conceptualization and Modeling

As suggested by previous research and hypothesized in the present study, specific strains appear to be predicted by different stressors. Although evaluation of client characteristics was related in this sample to burnout and to physical symptoms, which are relatively long-term outcomes, it was not related to the shorter-term psychological strain, anxiety, nor to the behavioral strain, absence. Furthermore, the unexpected finding that anxiety and burnout are positively and significantly related suggests that, rather than being successive stages in the stress experience, the two psychological strains often coexist, but occur in response to different stressors. It seems possible that additional conceptual and systematic empirical work may identify classes of stressors that predict classes of strain. For example, since anxiety was related in this sample to unit membership but to none of the stressors investigated, it may be that anxiety is a strain that is experienced in response to conditions inherent in unit membership. These might be reflective of technology, interaction styles, or a variety of other factors. Models which are more specific in identification of classes of stressors and strains expected to be related would improve the utility of stress models for guiding research and practice.

Careful examination of the results of factor analysis of the client characteristics scales suggests some clarification of definition of the salient dimensions used to classify and evaluate clients. Wills (1978) defined manageability of patients in terms of cooperativeness, deference to staff, willingness to accept the patient role, and assertiveness. The data suggest that manageability does in fact reflect evaluation of the patient's assertiveness: two of six items deal with the threat of physical harm, two others deal with the threat of psychological harm, and one reflects general threat.

Wills (1978) defined likeability in terms of the extent of being agreeable, responsive, friendly warm, rejecting, cold or hostile. In this sample, responsiveness seemed to be conceptualized by respondents in terms of appreciation of staff and cooperation with policies and procedures, as well as in terms of warmth and friendliness. It appears that nurses may base their liking for patients on a general evaluation of the goodness of a patient as a patient as well as on the nature of the interpersonal interaction between patient and nurse. Additional clarification of definitions of these dimensions provides a basis for more specific delineation of stressors, and investigation of their effects on particular strains.

## Implications of Results for Further Research

Results of this study suggest at least five directions for further research. Although the dimensions of client characteristics investigated in the study were clearly primary, other dimensions need to be interpreted and investigated. For example, two items which appeared to deal with death and dying loaded on a factor. Since the burnout literature suggests that this is an area of concern for helping professionals, attention needs to be addressed to measurement of the phenomenon.

Because client characteristics are significantly related to burnout, an outcome that is detrimental to the quality of work life of professionals, it becomes important to understand what factors in the person, in the situation, and what interactions of the two, affect how clients are perceived and evaluated. Studies which investigate different views of the same client, for example, may begin to illuminate this process.

The nature of the relationship between clients and task characteristics could profitably be explored. It is important to determine to what extent one

measure is a surrogate for the other, and to clarify further the relationship between the two.

It may also be useful to explicate the relationships between and among burnout, anxiety, physical symptoms and work load. Preliminary analyses indicate that, although all bivariate correlations except the physical symptoms-workload relationship are significant ($p < .01$), regressing each on the other three shows that while work load, anxiety, and physical symptoms all explain significant amounts of variance in burnout, only burnout is significantly related to each of the other three.

Longitudinal study of strains to determine whether there is a developmental pattern to the appearance of various types of strain would contribute to understanding the stress experience of helping professionals. This area of investigation could build on the work of the investigations of Golembiewski and Munzenrider (1982) into the phases of burnout. In addition, longitudinal studies using lagged correlation analysis may shed light on the complex effects of work load and social support in interaction with client characteristics.

## Conclusion

Results of the present study provide empirical support for the assumption that has been made in the conceptual literature that characteristics of clients have an impact on the stress experience of helping professionals. The study has also provided preliminary evidence of a useful measure of client characteristics. To the extent that stress is a quality of work life issue, and that quality of work life issues are considered critical to the effectiveness of organizations and to the well-being of their members, further development of the client characteristics scale and additional investigation into the evaluation and effects of client characteristics are warranted.

## APPENDIX A

### LETTER FROM ADMINISTRATOR ENCOURAGING PARTICIPATION

TO: R.N. and L.P.N. Staff
(Hospital Name)

We have been asked to participate in research on stress in the nursing profession that is being conducted by Nancy McIntosh, a faculty member from the University of South Florida and a University of Florida Doctoral Candidate.

Surveys will be mailed to your home within the next week. Those who fill out the survey will

1. Receive information about their own scores on the burnout and stress scales.
2. Contribute to understanding of causes of stress in the nursing profession.
3. Be guaranteed complete anonymity and confidentiality.

(Hospital Name) will not be identified by name in the published results.

Although you are under no obligation to complete and return the survey (which will take 45-60 minutes), I encourage you to do so.

/s/

Nursing Administrator

## APPENDIX B

## REQUEST FOR PARTICIPATION

TO: R.N. AND L.P.N. NURSING STAFF

Although much is being written about stress among professionals, relatively little information has been gathered from nurses themselves. To understand stress among nurses, it is important for researchers who are interested in the question (as I am) to ask people who know (as you do). So, I am asking you to take time (45 - 60 minutes) to participate in a study of stress and burnout among nurses.

I believe that the results will be helpful to you, your profession, and to the hospital. SPECIFICALLY,

1. YOU will receive information reporting your own scores on stress, burnout and satisfaction scales, and how they can be interpreted;
2. NURSING journals will be sent summary results, with interpretation (The name of the hosptial will <u>not</u> be used in any presentation of the results!);
3. (Hospital Name) will receive summary results, which will provide information regarding sources of stress.

I <u>know</u> that you are busy, and that taking 45-60 minutes to complete the survey represents an investment on your part. However, only the people who do the work have the information.

Please return the survey in the enclosed, self-addressed stamped envelope by February 1 so that I can begin to analyze the data and be able to provide you feedback by early March.

Thank you very much for your participation!

PLEASE NOTE: There is no way that your name and your results will be linked!

Sincerely yours,

Nancy J. McIntosh
Management Instructor,
University of South Florida
Doctoral Candidate,
University of Florida

## APPENDIX C

## DIRECTIONS FOR COMPLETION OF SURVEY

1. Select an identification sequence of five numerals, followed by one letter.

   EXAMPLE: 73251B

   You may find it convenient to select a number that represents part of a birthdate, phone number, etc. Please do not use a sequence such as 12345 since the chance of duplication is great.

2. Write the sequence on the front of the questionnaire, in the space provided, and someplace else, where you can find it later (maybe inside the cover of your phone book, or in your billfold).

   Your individual feedback will be contained in a printout, since I won't know names. You will use this number to identify your own results.

3. Complete the survey. This will take about 45-60 minutes.

4. Return the survey in the envelope provided.

PLEASE NOTE: There are no right answers, except those that are true for you. Some questions will begin to seem repetitive. This apparent repetition is necessary to assure validity of results. Please stick with it! Your contribution to the information is important.

THANKS AGAIN!

## APPENDIX D

## FOLLOW-UP LETTER TO RESPONDENTS

TO: R.N. and L.P.N. STAFF
(Hospital Name)

I am really excited about the response that you are giving to my request for information. As you can guess, I have been working on this project for a long time, reading, formulating questions, looking for instruments, etc. You can't imagine how exciting it is to be finally receiving data that will allow me to look for answers to the questions.

While you have been filling out questionnaires, I have been working on the computer program and the mechanics required to get the information back to you in a timely fashion. Barring any unforeseen difficulties, I hope to be able to get results to you by the end of February (let's hope the computer doesn't spend much time in its "down" mode!).

THANK YOU to all of you who have invested the time in completing the questionnaire. If you have not yet returned yours, but would like to participate, please send it on in. If you know of someone who didn't receive a copy of the material but is interested, please call me at ( ) or talk to ( ) in Nursing Education. Our intent was to send a packet to everyone, but apparently the list had some errors.

THANKS AGAIN!

/S/

Nancy J. McIntosh

## APPENDIX E

## MASLACH BURNOUT INVENTORY

Below are several statements about job related feelings that you may have had. Please use the following to indicate HOW OFTEN you have had the feeling.

| | |
|---|---|
| Never | = 0 |
| A few times a year | = 1 |
| Monthly | = 2 |
| A few times a month | = 3 |
| Every week | = 4 |
| A few times a week | = 5 |
| Every day | = 6 |

1. I feel emotionally drained from my work. _____

2. I feel used up at the end of the workday. _____

3. I can easily understand how my patients feel about things. _____

4. I feel I treat some patients as if they were impersonal "objects". _____

5. Working with people all day is really a strain for me. _____

6. I deal very effectively with the problems of my patients. _____

7. I've become more callous toward people since I took this job. _____

---

Note. Selected items of total 25. See Maslach and Jackson, (1981).

## APPENDIX F

## STRESS-BURNOUT SCALE FOR HEALTH PROFESSIONALS

For each statement, please use the following scale to indicate how much you agree or disagree with each statement. Answer according to how you currently feel in each case.

Agree very much = 1
Agree pretty much = 2
Agree a little = 3
Disagree a little = 4
Disagree pretty much = 5
Disagree very much = 6

1. I feel fatigued during the workday. _____
2. Lately, I have missed work due to either colds, the flu, fever, or other illnesses. _____
3. Once in a while I lose my temper and get angry on the job. _____
4. All my work habits are good desirable ones. _____
5. I experience headaches while on the job. _____
6. After work I often feel like relaxing with a drink of alcohol. _____
7. I never gossip about other people at work. _____
8. I feel that the pressures of work have contributed to marital and family difficulties in my life. _____
9. I am never late for an appointment. _____
10. I often have the desire to take medication (e.g. tranquilizers) to calm down while at work. _____
11. I have lost interest in my patients and I have a tendency to treat these people in a detached, almost mechanical fashion. _____
12. At work I occassionally think of things that I would not want other people to know about. _____
13. I often feel discouraged at work and often I think about quitting. _____
14. I frequently get angry at and irritated with my patients. _____
15. I am sometimes irritable at work. _____

APPENDIX F--continued

| | |
|---|---|
| Agree very much | = 1 |
| Agree pretty much | = 2 |
| Agree a little | = 3 |
| Disagree a little | = 4 |
| Disagree pretty much | = 5 |
| Disagree very much | = 6 |

16. I have trouble getting along with my fellow employees. _____

17. I am very concerned with my own comfort and welfare at work. _____

18. I try to avoid my supervisor(s). _____

19. I truly like all my fellow employees. _____

20. I always do what is expected of me at work, no matter how inconvenient it might be to do so. _____

21. I am having some work performance problems lately due to uncooporative patients. _____

22. All the rules and regulations at work keep me from optimally performing my job. _____

23. Sometimes at work I put off until tomorrow what I ought to do today. _____

24. I do not always tell the truth to my supervisor or co-workers. _____

25. I find my work environment depressing. _____

26. I feel uncreative and under-stimulated at work. _____

27. I often think about finding a new job. _____

28. Worrying about my job has been interfering with my sleep. _____

29. I feel there is little room for advancement at my place of employment. _____

30. I avoid patient interaction when I go to work. _____

## APPENDIX G

## STATE-TRAIT PERSONALITY INVENTORY

A number of statements that people have used to describe themselves are given below. Read each statement and, using the scale, place the appropriate number in the blank to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

Almost never = 1
Sometimes = 2
Often = 3
Almost always = 4

1. I feel calm. _____
2. I am tense. _____
3. I feel at ease. _____
4. I am presently worrying over possible misfortunes. _____
5. I feel nervous. _____
6. I am jittery. _____
7. I am relaxed _____
8. I am worried. _____
9. I feel steady. _____
10. I feel frightened. _____

---

Note. Only anxiety items are reproduced. See Speilberger (no date).

## APPENDIX H

## MEASURE OF ABSENCE FREQUENCY

People are absent from work for many reasons. In order to help us better understand why people miss work, please list the times you were absent (excluding paid vacation days and holidays) during the past 3 months and the reasons.

Possible Reasons

1. Illness
2. Sick family member
3. Personal business
4. Death of a friend or relative
5. Did not feel like going
6. Transportation problem
7. Accident
8. Other (please list)

| | Number of days out (fill in actual number) | Reason (fill in with number 1-8; if 8, please explain) |
|---|---|---|
| First Absence | _____ | _____ |
| Second Absence | _____ | _____ |
| Third Absence | _____ | _____ |
| Fourth Absence | _____ | _____ |
| Fifth Absence | _____ | _____ |
| Sixth Absence | _____ | _____ |
| Seventh Absence | _____ | _____ |

## APPENDIX I

## PHYSICAL SYMPTOMS SCALE

Here is a list of physical symptoms. Please use the following responses to describe how often each of these has happened to you in the past 3 months.

1. Never
2. Once in a while
3. Sometimes
4. Fairly Often
5. Very often

1. A weight gain or loss of 10 pounds or more (excluding diets) _____
2. Trouble getting to sleep _____
3. Trouble staying asleep _____
4. Becoming tired in a short time _____
5. Rash or breaking out on your skin _____
6. Unusual hair loss _____
7. Excessive dryness or itching of skin _____
8. Sweating so that you feel damp and clammy _____
9. Headaches _____
10. Blurred vision _____
11. Difficulty swallowing _____
12. Dizziness _____
13. Nosebleeds _____
14. Ringing in your ears _____
15. Shortness of breath _____
16. Heavy coughing _____
17. Tightness or heaviness in your chest _____

APPENDIX I--contiued

1. Never
2. Once in a while
3. Sometimes
4. Fairly Often
5. Very often

18. Chest colds _____
20. Pains in your heart _____
21. Feeling your heart pounding or racing _____
22. High blood pressure _____
23. Poor appetite _____
24. Pains in your stomach _____
25. Diarrhea _____
26. Indigestion or acid stomach _____
27. Nausea or vomiting _____
28. Weakness _____
29. Stiffness, swelling or aching in your joints or muscles _____
30. Muscle cramps _____
31. Pains in your back and spine _____

## APPENDIX J

## JOB DIAGNOSTIC SURVEY

Below are some statements that describe jobs. Based on the following scale, how accurate is the statement in describing your job.

| | |
|---|---|
| Very inaccurate | = 1 |
| Mostly inaccurate | = 2 |
| Slightly inaccurate | = 3 |
| Uncertain | = 4 |
| Slightly accurate | = 5 |
| Mostly accurate | = 6 |
| Very accurate | = 7 |

1. The job requires me to use a number of complex or high-level skills. _____

2. The job is arranged so that I do <u>not</u> have the chance to do an entire piece of work from beginning to end. _____

3. Just doing the work required by the job provides many chances for me to figure out how well I am doing. _____

4. The job can be done adequately by a person working alone--without talking or checking with other people. _____

5. This job is one where a lot of other people can be affected by how well the work gets done. _____

6. The job denies me any chance to use my personal initiative or judgment in carrying out the work. _____

7. The job provides me the chance to completely finish the pieces of work I begin. _____

8. The job gives me considerable opportunity for independence and freedom in how to do the work. _____

---

<u>Note</u>. Selected items of total 21. See Griffin (1981).

## APPENDIX K

## TECHNOLOGY INSTRUMENT

Below are some statements about work on your unit. Please respond to each item, using the following scale. Obviously, percentages will be approximate. Just give your best estimate.

0% - 5% = 1
6% - 25% = 2
26% - 50% = 3
51% - 75% = 4
76% - 100% = 5

1. In your estimation, what percentage of patients on your unit need nursing observation more often than once every half hour. _____

2. What percentage of the patients would you say have similar health problems (or diagnosis)? _____

3. For some patients more than others it is important to know complete details of their previous history. For what percentage of the patients on your unit is it critical that the nurse know a detailed history from birth to present time? _____

4. What percentage of the patients on your unit have complex problems that are not well understood? _____

5. What percentage of the nurses' work involves performing technical procedures and special tests? _____

6. What percentage of patients require the use of technical equipment (i.e., suctions, cardiac monitors, respirators, etc.)? _____

7. What percentage of the patients on your unit on an average day require an intravenous infusion? _____

8. On some units there is greater pressure to give nursing care quickly because of patients' critical conditions. What percentage of the time is there a greater time pressure on your unit? _____

9. What percentage of the time does improvement in patients' conditions really have to depend upon the skillful work and initiative of nursing personnel? _____

10. What percentage of your work requires the analysis of complex problems? _____

11. What percentage of the patients have written goals for their individualized care? _____

APPENDIX K--continued

0% - 5% = 1
6% - 25% = 2
26% - 50% = 3
51% - 75% = 4
76% - 100% = 5

12. What percentage of the nursing care on your unit is directed at meeting patients' socio-psychological needs (as opposed to physical needs)? _____

13. What percentage of the nursing care given relies upon nurses' intuition rather than on set procedures or routines? _____

14. What percentage of the nursing care procedures are similar for most of the patients on your unit? _____

15. What percentage of the decisions made by nurses during their work are repetitive from one day to the next? _____

16. What percentage of new nurses starting work on your unit would find the nursing care speciality difficult to learn? _____

17. What percentage of your work changes in direct response to changes in patients' conditions or moods? _____

18. What percentage of the time are you highly dependent upon other nurses on your unit for help and/or are they dependent upon your help? _____

19. In your estimation, what percentage of the decisions made by the nursing staff of your unit are made independently of the physicians? _____

For #20, 21, please use the following scale:

Strongly disagree = 1
Disagree = 2
Agree = 3
Strongly agree = 4

20. Nurses on your unit have frequent verbal or written communications with medical staff. _____

21. On this unit, there are many emergencies when immediate nursing action must be taken in response to changes in patients' condition. _____

---

Note. In this study, Item 10 was inadvertently omitted.

## APPENDIX L

## CLIENT CHARACTERISTICS SCALE

Below are statements that are descriptive of some patients. Please use the following scale to indicate how accurately they describe most of your patients most of the time, even though there may be exceptions.

Very inaccurate = 1
Mostly inaccurate = 2
Slightly inaccurate = 3
Neither accurate nor inaccurate = 4
Slightly accurate = 5
Mostly accurate = 6
Very accurate = 7

1. Comply with treatment instructions given. _____
2. Become stubborn and resist doing what's good for them. _____
3. Are well groomed and attractive. _____
4. Will probably improve in physical condition. _____
5. Have family and friends who may harm me physically. _____
6. Appreciate the efforts made for them by nurses. _____
7. Cooperate in adhering to hospital policies and protocol. _____
8. Are difficult to look at. _____
9. Have favorable prognosis. _____
10. Make me wonder whether I'm really competent. _____
11. Require my presence frequently. _____
12. Are friendly and warm toward nurses and other helpers. _____
13. Seem more different from than similar to my family and friends. _____
14. Don't adapt well to hospital procedures. _____
15. Are easier to deal with than their families and friends. _____
16. Reflect, in their physical appearance, the problems that they have. _____

APPENDIX L--continued

Very inaccurate = 1
Mostly inaccurate = 2
Slightly inaccurate = 3
Neither accurate nor inaccurate = 4
Slightly accurate = 5
Mostly accurate = 6
Very accurate = 7

17. Make me look good. _____
18. Show overt appreciation for effort and services received. _____
19. Want to be well and devote a lot of effort to getting well. _____
20. Seem to be from a higher economic status than mine. _____
21. Are around such a short time that I don't known much about them. _____
22. Tend to blame the nurses and hospital for their problems. _____
23. Have problems that don't cause them much emotional stress. _____
24. Have physical problems that mean they'll probably die without getting well. _____
25. Are often cold and hostile to people who try to help them. _____
26. Will probably recover. _____
27. Would never do me personal harm. _____
28. Behave in ways that characterize "good" patients. _____
29. Behave in ways that make me afraid for my safety. _____
30. Remind me of my family and friends. _____
31. Are well-educated. _____
32. Keep me from doing my work as well as I'd like. _____
33. Are chronically ill. _____
34. Require care that is painful. _____
35. Are very difficult to deal with. _____
36. Seem more similar to each other than different from each other. _____
37. Have problems that are more different than alike. _____

## APPENDIX M

## WORK LOAD SCALE

All of us must occasionally deal with situations at work that are not totally positive.

Please indicate, using the scale provided, how often you

Not at all = 0
Rarely = 1
Sometimes = 2
Rather often = 3
Nearly all the time = 4

1. Think that the <u>amount</u> of work you do may interfere with how <u>well</u> it gets done. _____

Please use the following scale to respond to the next four items about your job.

Hardly any = 0
A little = 1
Some = 2
A lot = 3
A great deal = 4

How much does your job require you

1. To work very fast? _____
2. To work very hard? _____
3. To exert a lot of effort? _____
4. To work unwanted overtime? _____

## APPENDIX N

## SOCIAL SUPPORT INSTRUMENT

Please answer the questions about each person or group by using the following responses.

1. Not at all
2. A little
3. Some
4. Pretty much
5. Very Much

| | Your Supervisor | Your Coworkers | Your Family/Friends |
|---|---|---|---|
| 1. How much do these people go out of their way to make your work life easier for you? | _____ | _____ | _____ |
| 2. How easy is it to talk with the following people? | _____ | _____ | _____ |
| 3. How much can these people be relied on when things get tough at work? | _____ | _____ | _____ |
| 4. How freely can you express your feelings to the following people? | _____ | _____ | _____ |

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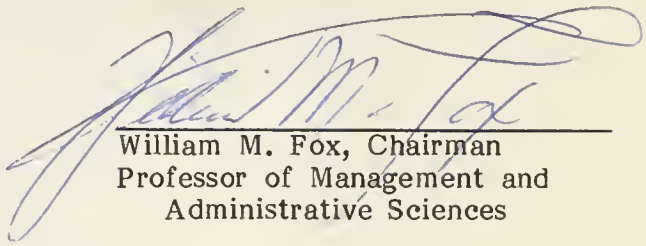
## BIOGRAPHICAL SKETCH

Nancy Jones McIntosh was born June 2, 1934, in Pittsburgh, Pensylvania. In 1956, she earned the Bachelor of Arts degree with a major in philosophy from Maryville (Tennessee) College. She and her husband, Mac, have three children, Beth, Scott, and Jan. Ms. McIntosh returned to school and in 1977 earned the Master of Science degree with a major in management from the University of South Florida. She has been on the faculty of the University of South Florida, College of Business Administration, since 1981. Her primary area of interest is organizational behavior.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



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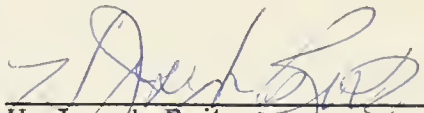

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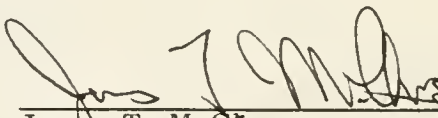

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This dissertation was submitted to the Graduate Faculty of the Department of Management and Administrative Sciences in the College of Business Administration and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

April, 1984

Dean for Graduate Studies and
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